Continental SCIENTIFIC

INSTALLATION AND OPERATIONS **MANUAL**

Laboratory/Pharmacy Reach-Ins & Pass-Thrus

Refrigerators & Freezers

Please fill in the following information for your NEW unit, carefully read the instructions in this manual and file it for future reference.

MODEL NO. _____

SERIAL NO. _____

PURCHASED FROM _____

INSTALL DATE _____

1-800-523-7138

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RECEIVING YOUR NEW MODEL

Congratulations on your purchase of Continental Scientific superior laboratory/pharmacy equipment! When your shipment arrives, thoroughly examine the packaging for any punctures, dents, or signs of rough handling. It is in your best interest to partially remove or open the shipping container in order to examine the contents for any missing accessories or concealed damage which may have occurred during shipment. If the cabinet is damaged, it must be noted on the carrier's delivery slip or bill of lading and Freight Claim must be filed with the shipping company. **FREIGHT DAMAGE IS NOT COVERED UNDER WARRANTY**.

UNCRATING YOUR NEW MODEL

The protective packaging should remain on your cabinet to avoid dents or scratches while transporting it to the actual set-up location. All shelving, accessories and legs or casters are carefully packaged and secured inside your cabinet to prevent damage. All doors are locked and the keys are conveniently attached to the door handle. After moving your unit to its final location, split the outer plastic wrap vertically, along one of the corners of the cabinet. Remove the plastic and the protective corner guards and any accessories or boxes on the skid. Dispose of all packaging materials properly.

Four (4) bolts secure the cabinet to the wooden skid. The bolts are located at each end on the underside of the skid. In order to remove these bolts, tilt the cabinet backwards and place wooden blocks at each end in order to hold it in its tilted position. Using a ¾" socket or open end wrench, remove the bolts and carefully slide the cabinet off of the skid. If caster support plates are to be installed, save the bolts and washers (**see "Mounting Caster Support Plates" under "Optional Accessories"**). After skid removal, the cabinet should never be moved without dollies or rollers to avoid damage to the cabinet bottom or floor.

IMPORTANT NOTE: Do not under any circumstances, lay your new model on its front or sides. For a brief period of time, you may lay the cabinet on its back, but only when it's properly blocked so as not to crush the back or end panels and also to allow provision for your hands, in order to set it in its upright position without damaging the cabinet. **Do not plug in and operate model for at least three (3) hours after cabinet is set upright from being on its back as this can damage the compressor.**

GENERAL INFORMATION AND IMPORTANT OPERATING FACTS

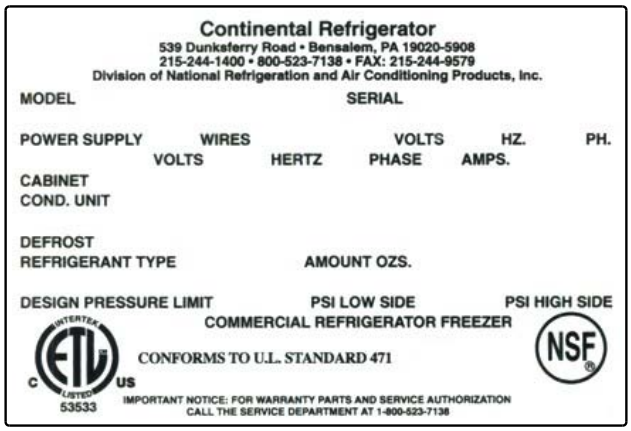
This manual has been compiled to aid in the installation, operation and maintenance of your new equipment. Please take the time to read it and familiarize yourself with your equipment and its operation, to enjoy optimum performance.

Continental Scientific offers a variety of accessories for your model (**see "Optional Accessories" section** towards the back of this manual or contact your dealer for more information).

SERIAL DATA TAG

A serialized data tag is permanently attached to the inside right-hand wall of your unit. (**see Figure 1**). In addition to identifying the specific product, this label provides important information regarding electrical requirements and refrigeration charge, as well as agency listings and factory contacts.

FIGURE 1: Data Tag



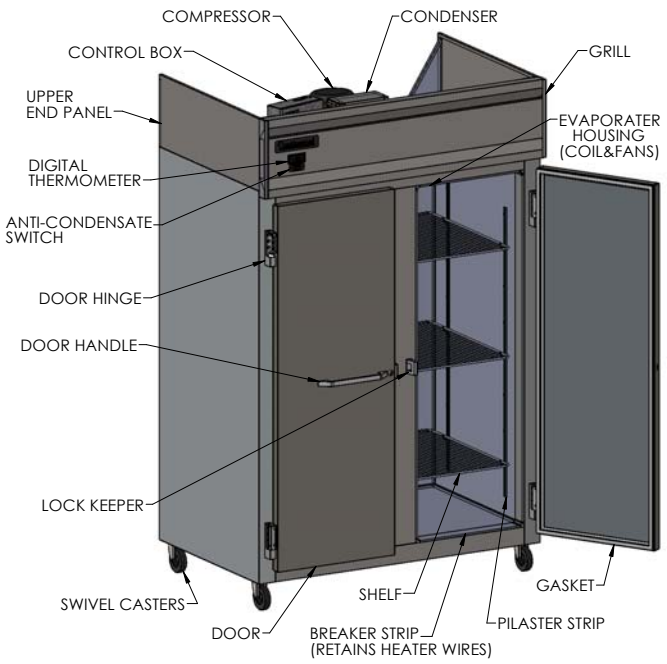
IMPORTANT NOTE: The model and serial number should be noted on the front cover of this manual, in the spaces provided. If parts or service are ever needed for your unit, this information will be required to verify warranty status and to properly identify any parts that may be needed.

All cabinets must be given sufficient time to reach normal operating temperature before placing any product inside cabinet. For refrigerators, approximately 2 hours of operation is required to lower the cabinet to 4°C. Freezers require approximately 4 hours of operation to lower the cabinet temperature to -20°C (**see "Operation" section for further information**).

Prior to factory shipping, all products are performance-run tested for a minimum of 12 hours providing a highly sophisticated temperature recording exclusive to each individual cabinet. This recording is supplied within this manual packet. A final evaluation, including analysis of cabinet performance, leak check, vibration, noise level and visual examination is made by a qualified quality control team to assure a superior product. The carrier signs to this effect when they accept the product for shipping. To insure the maximum in safety and sanitation, all models are listed under the applicable standards of Underwriters Laboratories and the National Sanitation Foundation.

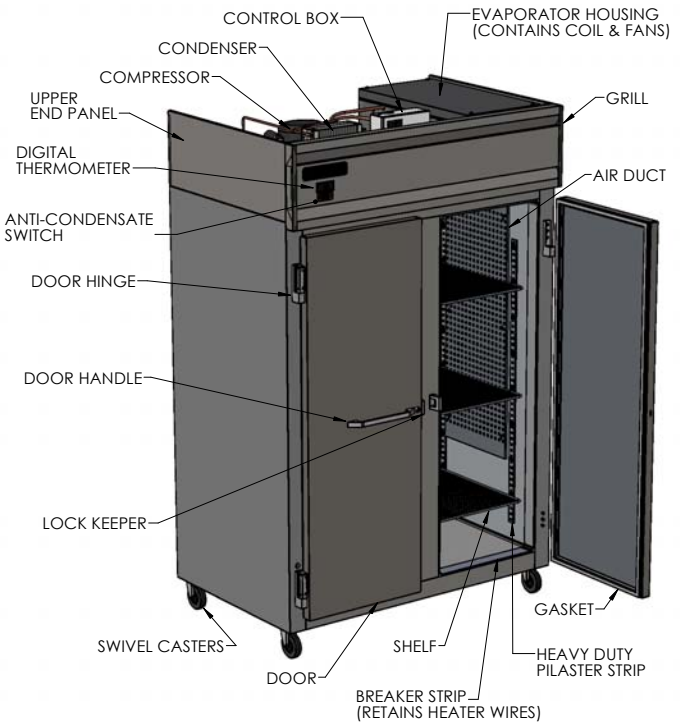
MODEL COMPONENTS

FIGURE 2: Reach-In Refrigerator or Freezer



Reach-In refrigerators and freezers have an internal evaporator coil located behind the fan panel on the inside ceiling of the refrigerated compartment (**see Figure 2**). Pass-Thru refrigerators and freezers have an insulated housing located on top of the cabinet, that contains the evaporator coil, out of the refrigerated storage area (**see Figure 2A**).

FIGURE 2A: Pass-Thru Refrigerator or Freezer



INSTALLATION AND LOCATION

Before moving the cabinet to its final point of installation, measure all doorways or passages to assure clearance. If additional clearance is needed, you can remove the cabinet doors and grill (**see "Door Removal and Adjustment" and "Grill Removal"**).

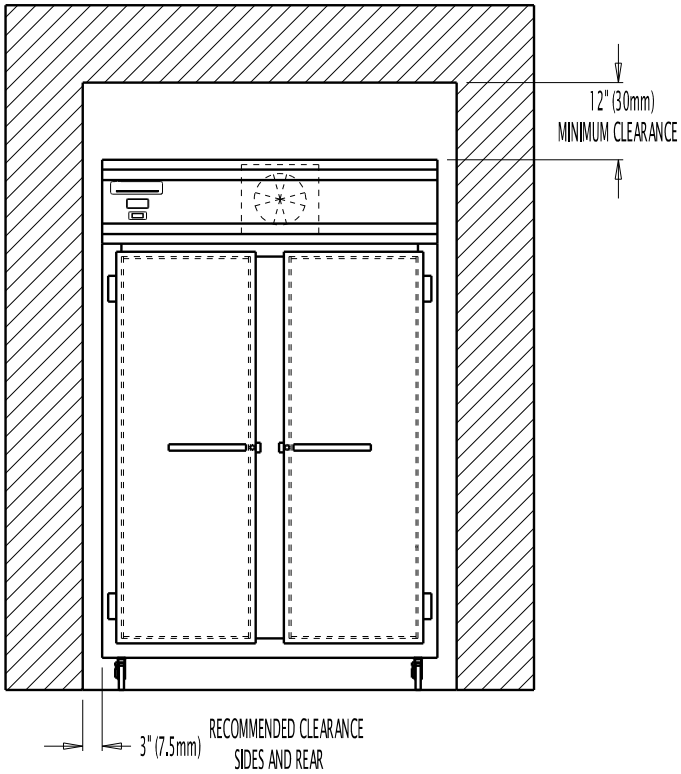
VENTILATION

The final location site of your air cooled refrigerator or freezer **must** provide a large quantity of cool, clean air. All refrigeration systems operate most efficiently and trouble-free with cool, dry air circulation. Avoid locations near heat and moisture generating equipment or in direct sunlight (where temperatures can exceed 100°F). Do not select a location in an unheated room or area where temperatures may drop below 55°F. Air supply to the condensing unit is equally important. Restricting the air places an excessive heat load on the condensing unit and adversely affects its operation.

For optimum performance, all models should be installed on casters or legs (**see "Installing Casters" or Installing Legs"**) with a minimum 12" above the grill and 3" on each side and back of cabinet (**see Figure 3**). This spacing will provide sufficient room for proper air circulation and clearance to access components for cleaning and maintenance. If any of the these conditions can not be met, the installer should provide special venting or air ducts.

IMPORTANT NOTE: To assure maximum operating efficiency, your new cabinet should be located where an unrestricted air supply can circulate above **and** behind the cabinet. **Do not** at any time obstruct the grill area in the front of the cabinet in any way, and **never** place or store anything on top of the cabinet machine compartment. These rules are essential for maximum cooling capacity and long life of refrigeration parts.

FIGURE 3: Minimum Clearance
(Typical Reach-In Model Shown)



FLOOR LOADS

The floor at the final location site must be level, free of vibration and strong enough to support the total combined weights of your new model plus the maximum product load which might be placed into it. Keep in mind that all the weight is concentrated at the caster or leg locations. To estimate the possible product weight, assume that each cubic foot of storage space weighs approximately 35 pounds. Multiply 35 pounds by the amount of cubic feet in the cabinet to obtain the product load weight.

For example, a 20 cubic foot refrigerator can hold approximately 700 pounds of product (35 x 20). Assuming the cabinet itself weighs 300 pounds, the total combined weight of cabinet and product is approximately 1000 pounds. Therefore, the floor in this example must be able to support up to 1000 pounds.

INSTALLING CASTERS AND LEVELING

If your new unit is supplied with swivel casters, they will be packed in the accessory box that came with your cabinet. Casters should be installed only when the cabinet is close to its final installation site. To install casters on your new model, place wooden blocks along the back, at each end. Tilt the cabinet back, using the wood blocks to help hold the cabinet in its tilted position. Locate the large threaded holes on the bottom of the cabinet and screw the threaded caster studs into the mounting holes, closest to the front of the unit. Repeat this procedure by tilting the cabinet in the opposite direction and installing the remaining casters. Make sure the casters are tightened extremely well (**see Figure 4 & 4A**). If the casters are not installed tightly, the cabinet will be unstable and may sway or rock, which can damage the cabinet.

If the height of a caster needs to be raised, shims must be installed under the casters which need leveling. Extra large washers, available at most hardware or furniture stores, can be used to shim casters, or contact the factory for caster shims. For maximum stability under extreme conditions, caster plate assemblies are available from the factory (**see "Optional Accessories" section of this manual**).

Do not attempt to level casters by unscrewing them from the cabinet and leaving them loose, as this will cause damage to the cabinet and leg hole threads, voiding all warranties.

FIGURE 4: Installing Casters

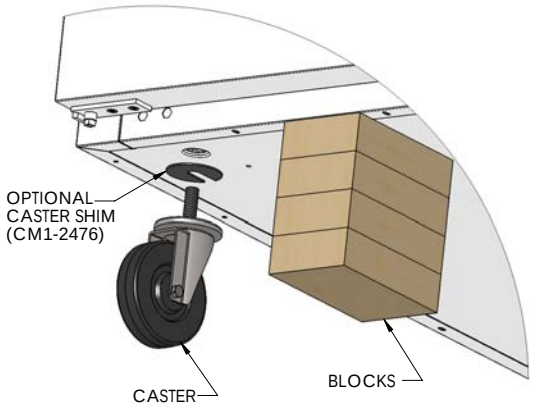
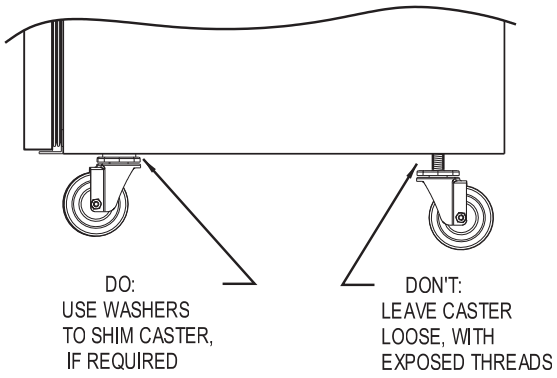


FIGURE 4A: Casters Must Be Tight to Cabinet Bottom

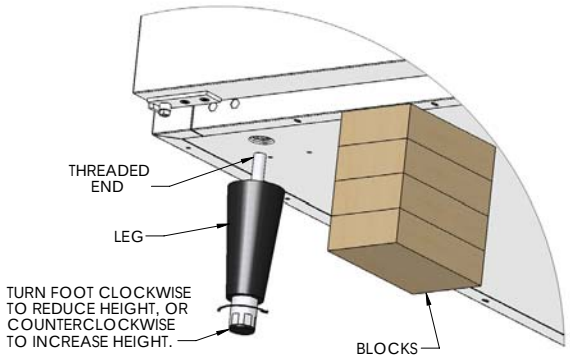


INSTALLING LEGS AND LEVELING

If your new unit is supplied with adjustable legs, they will be packed in the accessory carton in the cabinet. Your cabinet will have either four (4) or (6) threaded mounting holes on the bottom of the cabinet (**see Figure 5**). In order to install the legs, carefully tip the cabinet back, adding four (4) 2" wood blocks underneath, and simply screw the threaded leg studs into the case bottom front leg holes. Repeat this procedure by tilting the cabinet in the opposite direction and install the remaining legs. Make sure the legs are tightened extremely well or the entire model will sway or rock with each opening or closing of the doors, possibly causing damage to the case bottom. This procedure should be performed close to the final installation site and allow access to the rear of the cabinet.

To assure your cabinet is level, all legs are equipped with bullet-type leveling bolts. These bolts can be turned by hand or by wrench, clockwise or counterclockwise to level the cabinet.

FIGURE 5: Leg Installation

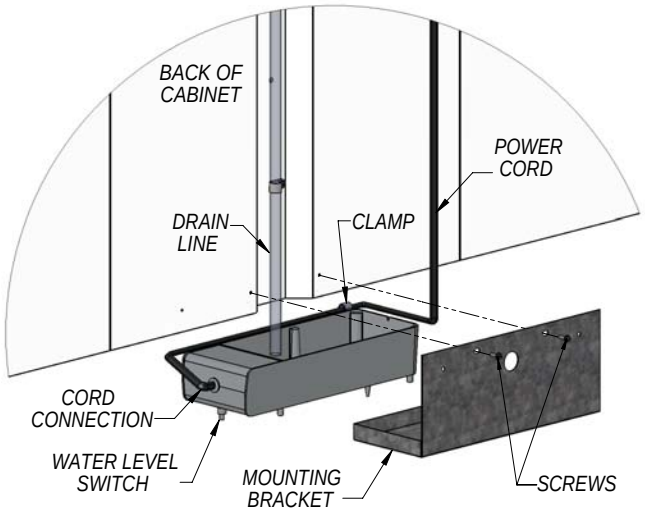


CONDENSATE REMOVAL (*Interior Coil Models*)

No floor drains or plumbing connections are required since all models use an automatic condensate water evaporating system. Reach-In models feature an evaporator housing, located on the inside ceiling of the refrigerated storage area (**see Figure 2**) and an electric condensate vaporizer pan with a mounting bracket packed in the accessory carton.

To install the vaporizer, remove the pan, power cord, cord clamp and screw from the carton (**see Figure 6**). Connect the cord to the vaporizer as shown. Route the cord around the outside of the pan and through the clamp as illustrated. Secure the cord and clip to the pan by fastening the mounting screw into the threaded hole on the side of the vaporizer. Remove the (2) mounting screws from the back of the cabinet. Position the bracket as shown and place the vaporizer in the bracket, making sure the power cord is routed as illustrated. Attach the bracket to the cabinet with the screws. Using a sharp knife or scissors, cut the drain tube so the end is about 2" below the bottom of the cabinet. Place the end of the drain tube in the pan, making sure the tube is not blocked, kinked, or sitting on the bottom of the vaporizer pan. Check that the water level switch is operating correctly by lightly pressing down on the top of the vaporizer, at the end where the cord is attached. You will hear a "click" as pressure is applied and another "click" when pressure is removed. If you do not hear the switch "click", ensure the vaporizer is seated in the bracket correctly and the cord is routed correctly and secured in the clamp. Plug the power cord into the receptacle labeled "VAPORIZER" on top of the cabinet.

FIGURE 6: Electric Condensate Vaporizer

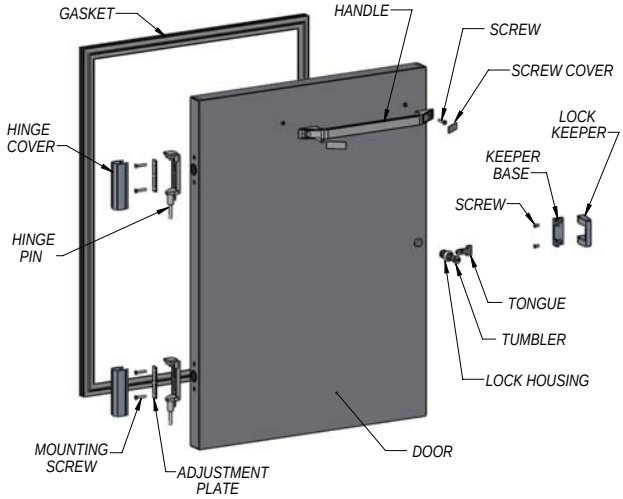


IMPORTANT: It is extremely important that the water level switch operates correctly, that the vaporizer is plugged into the receptacle labeled "VAPORIZER" and the compressor is securely plugged into the receptacle labeled "CONDENSING UNIT". Improper installation may cause your cabinet or vaporizer to operate "erratically." This can result in water overflowing the pan and onto the floor.

CONDENSATE REMOVAL(*Top Mount Coil Models*)

Pass-Thrus feature an insulated evaporator housing, located on the top of the cabinet, out of the food zone (**see Figure 2A**). These models utilize a unique self-contained hot air evaporating system to automatically eliminate condensate water. No floor drains or plumbing connections are required and the system is completely self-contained, so no further assembly or maintenance is required. In some adverse conditions such as high ambient temperature, high humidity, extremely heavy usage, frequent loading for prolonged periods of time, or heavy pan loading, the amount of condensate water generated could overflow the pan. If this occurs, the plastic drain tube from the cabinet can be diverted directly to a floor drain, bypassing the condensate pan. Alternatively, an optional electric condensate vaporizer may be purchased as an accessory. An electric condensate vaporizer is also supplied with all remote reach-in and pass-thru models. To install the optional condensate vaporizer, follow the steps for **"Interior Coil Models"** in the previous section.

FIGURE 7: Reach-In Door Components



DOOR REMOVAL AND ADJUSTMENT

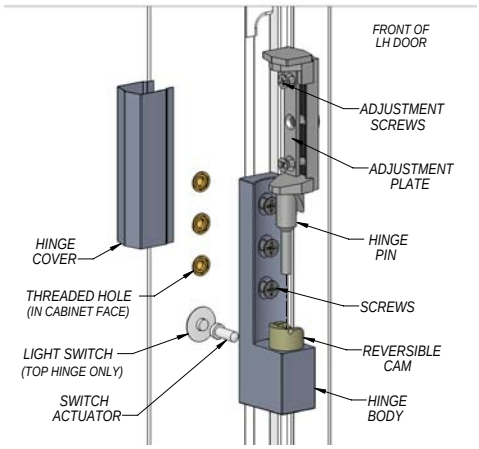
During installation, it may become necessary to remove the cabinet doors to facilitate passage through narrow doorways or hallways. To remove a door, carefully pry off all hinge covers using a sharp tool or knife (**see Figure 7**). Swing the door to the open-door position (90°) and carefully lift the door upward, so the hinge pin (attached to the door) clears the hinge body (mounted to the cabinet). If it is necessary to remove the hinge bodies from the cabinet face, use caution when loosening the top hinge bodies, as they cover the light switch plunger. To reinstall the door, reverse the above procedure. (For glass doors, **see** "**Optional Accessories**").

All doors are aligned at the factory, however vibration during transit may cause doors to shift and adjustment may be necessary. If the door(s) require realignment, carefully pry off all hinge covers (**see Figure 7A**) using a sharp putty knife or flat-blade screwdriver. Loosen the screws securing the hinge bodies to the face of the cabinet and slide the door into alignment. Hold the door firmly in place and tighten all screws securely.

If the door gasket(s) do not seal properly to the cabinet face and there are gaps between the gasket and the face on the hinge edge, adjust the door by removing the hinge covers (**see Figure 8A**) and loosening the adjustment screws securing the hinge pin to the door. Push the face of the door towards the face of the cabinet, so the gasket firmly contacts the cabinet. If the door is pressed too tight against the cabinet, the gasket will pinch along the hinge side and the door will not close and seal properly. Hold the door firmly in place and tighten all screws securely. Open and close the door several times to check that the gasket seals

properly all the way around the door. Re-adjust if necessary and make sure all screws are tight. Replace all hinge covers.

FIGURE 7A: Reach-In Hinge Adjustment



REMOVAL AND REPLACEMENT OF HINGE MECHANISM

Before attempting any work on your refrigerator or freezer, it is strongly recommended that all contents be removed and stored in a walk-in or other refrigerated space. Disconnect power by unplugging the cabinet, or switching off circuit breaker. The following tools are needed to remove the hinge: straight-blade screwdriver and Phillips screwdriver with large (#3) tip.

To remove a hinge, open the door approximately 90° and lift it off the hinge bodies. Remove the hinge pin and adjustment plate from the door (**see Figure 8A**) by loosening the adjustment screws. Remove the hinge body from the face of the cabinet by loosening the (3) flat-head machine screws. To remove the lock keeper from the cabinet, remove the 2 screws on the inside edge of the keeper (**see Figure 8A**) and slide it off the base. If the white, nylon cam needs to be removed from the hinge body, a straight blade screwdriver may be used to carefully pry the cam out of the body. Be careful not to damage the cam, as the nylon material is soft. Reverse the cam by rotating it 180° and pressing it firmly back in place.

RE-HINGING DOORS

Single section, solid long door models are rehingeable in the field, without the need to modify the cabinet. A scraper or flat-blade screwdriver, a Phillips screwdriver and wire crimpers will be needed. Before attempting to rehinge your unit, unload all contents and store in walk-in or other refrigerated space. Disconnect power to the cabinet.

Open the door approximately 90° and lift it off the hinges. Remove the hinge pin assemblies from the door (**see Figure 8A**). Reverse each pin by rotating it 180° and reattaching it to the door. Remove the hinge bodies and lock keeper(s) from the front of the cabinet. Remove the white, nylon cam from the hinge body. (A straight blade screwdriver may be used to carefully pry the cam out of the body, without damaging it.) Reverse the cam by rotating it 180° and pressing it firmly back in. Remove the light switch from the front of the cabinet and pull the switch out of the hole.

Remove the screws and plug button from the face of the cabinet, on the opposite side hinge locations. The wires for the light switch will be coiled up in the insulation, behind the plug button. Carefully pull the wires out and install female connectors for the light switch. Remove the old light switch from behind the top hinge and remove the wire connectors.

Cap each lead on the brown lamp cord separately, push the wires into the insulation and insert the plug button into the hole. Remove the cover from the control box, on top of the cabinet. There will be a black lamp cord, with a tag identifying it as the light switch wire. Install (2) female wire connectors on the black lamp cord. There will be (2) brown lamp cord leads on the terminal block. Disconnect them and replace with the wires from the black lamp cord. Cut off the old leads on the brown ripcord and secure them out of the way, so they will not contact any live wiring. Check that all wires are properly connected and secured. Replace the control box cover. Remount the hinges and actuator button for the switch to the face of the cabinet. Remount lock keeper and door. Reconnect power to the cabinet.

NOTE: All wiring and connections should only be made by a qualified electrician.

REMOVING GRILL

To remove the grill, loosen, but do not remove, the (4) mounting screws located on the back side of the grill at the ends. Simply lift grill up off of its mounting screws and out. To replace the grill, line up the grill mounting screws with the keyhole slots located on the cabinet body, push in and down on the grill.

IMPORTANT NOTE: The wiring to the anti-condensate switch and the thin copper tubing or cable for the thermometer are provided with leads long enough to allow the grill to be laid across the top of the cabinet after it has been removed. Take care not to damage the wires or copper tubing when handling the grill.

If you need to completely remove the grill from the cabinet, disconnect the power supply to the cabinet. Remove the wires on the back of the anti-condensate switch on the grill. Locate the thermometer sensing bulb and cover, located inside the cabinet. On Reach-In models, the thermometer bulb cover is under a small cover channel on the interior top left corner towards the front of the cabinet. On Pass-Thru models, the thermometer bulb is located on the interior top, under the air duct. Remove the cover, carefully grasp the bulb and push it back through the cabinet hole. The thermometer bulb and grill can now be removed from the cabinet. When reinstalling the thermometer bulb, be sure to replace the sealant putty around the hole into the insulation. Reattach the leads for the anti-condensate heater switch and reconnect the cabinet's power supply.

INITIAL CLEANING PROCEDURE

Prior to start-up and before placing any product inside of your new model, the interior of the cabinet should be thoroughly cleaned. Washing with a mild soap and warm water solution is recommended for cleaning the aluminum and stainless steel surfaces of your cabinet. This should be followed by cleaning with a baking soda solution (three (3) tablespoons of baking soda to each quart of warm water). Rinse thoroughly with clear water and dry with a clean, soft cloth.

IMPORTANT NOTE: Never use harsh detergents, cleaners, scouring powders or chemicals when cleaning your model. Failure to dry the interior surfaces after cleaning may result in a streaking or staining of the metal.

Complete cleaning procedures and precautions are listed in the (**"Periodic Cleaning Procedure" under "Maintenance"**).

START-UP PROCEDURE

ELECTRICAL CONNECTIONS

To insure proper operation, your new model must be connected to an individual circuit that can supply the full voltage as stated on the cabinet serial data plate. For correct voltage, power draw, and wire accommodations, check the data on the serial data plate located on the inner right wall of your new model. Verify that this information exactly matches the electrical characteristics at the installation location. An electrical wiring diagram, located on the inside compressor compartment rear, next to the electrical console box, should also be consulted during connection. For reference, a copy of each electrical wiring diagram is located towards the back of this manual (**see "Wiring Diagrams" section**).

Refrigeration compressors are designed to operate within +/-10% of the rated voltage indicated on the cabinet serial plate. Excessively high or low supply power can burnout the compressor. This can be easily detected and will void the factory warranty. Full voltage at the correct rating, on a separate, designated circuit, not affected by the operation of other electrical appliances, must be available to the refrigeration unit at all times. Extension cords should never be used on commercial equipment, as they can overheat and/or result in low voltage.

GFI/GFCI RECEPTACLES

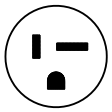
Building codes in some areas may require certain 115 volt receptacles to be protected by a Ground-Fault Circuit Interrupter (GFCI or GFI). These devices are not recommended for most commercial refrigerators and freezers, since nuisance trips can occur (typically due to moisture) causing temporary loss of power. This may result in high storage temperatures and potentially unsafe product. If you connect your equipment to a GFCI protected receptacle, a properly sized, commercial grade circuit breaker should be used on a separate, power supply. Alternatively, a qualified electrician may be able to hard wire your equipment, eliminating the need for a GFCI device. Contact Continental's Service Department before making any modifications to your cabinet, to avoid loss of warranty.

GFCI devices are not recommended. Product loss and/or problems resulting from nuisance trips or connection to a defective or improper power supply, are not covered under warranty. **Unauthorized modifications to your equipment or power cord can cause an electrical hazard and will void factory warranty**.

115 VOLT, 60 HZ, 1 PHASE CONNECTION

All 115 volt models are provided with a factory installed, UL 15-amp power cord and NEMA 5-15P plug, or a 20-amp cord with NEMA 5-20P plug. Your unit must be plugged into a compatible, grounded receptacle that can supply the full voltage and amperage stated on the serial plate (**see Figure 1**).

NEMA 5-15P



NEMA 5-20P

IMPORTANT NOTE: A SEPARATE, ISOLATED, PROPERLY SIZED POWER SUPPLY MUST BE PROVIDED. GFCI DEVICES AND/OR EXTENSION CORDS SHOULD NOT BE USED. PRODUCT LOSS, AS WELL AS PROBLEMS RESULTING FROM NUISANCE TRIPS OR HIGH/LOW VOLTAGE, ARE NOT COVERED UNDER WARRANTY.

CAUTION: IF UNIT IS UNPLUGGED OR DISCONNECTED FOR ANY REASON, ALLOW 5-6 MINUTES BEFORE TURNING THE UNIT BACK ON TO ALLOW THE SYSTEM TO EQUALIZE. DISREGARDING THIS PROCEDURE COULD CAUSE AN OVERLOAD AND PREVENT THE UNIT FROM OPERATING.

115/208-230 VOLT, 60 HZ, 1 PHASE CONNECTION

All 115/208-230 volt models are provided with three (3) supply wires, which exit the electrical box located in the machine compartment rear, next to the compressor. The cabinet circuitry is 115 volts and the condensing unit operates on 208-230 volts. A permanently connected, 3-wire (plus ground) power supply is required, consisting of (2) hot conductors and (1) neutral wire, plus (1) ground wire. The supply leads must be connected to the appropriate leads from the cabinet and the supply ground wire must be attached to the electrical box with a ground lug to provide proper grounding of the metal cabinet and chassis. All wiring and connections should only be made by a qualified electrician and must conform to all local electrical codes.

SPECIAL VOLTAGE CONNECTIONS

When models are ordered from the factory with special voltages, connections should be made as required on the electrical wiring diagram provided next to the electrical control box.

START-UP CHECKLIST

After your unit has been installed and electrically connected in accordance with this manual, please take time to check the following before loading product, to assure trouble-free operation:

- ❑ Sufficient clearance and ventilation provided around cabinet (**see "Ventilation"**)
- ❑ Unit connected to separate power supply at correct voltage (see "**Electrical Connections**")
- ❑ Cabinet is level and casters/legs are tight (see "**Installation and Location**")
- ❑ Doors close and seal properly (see "**Door Removal and Adjustment**")
- ❑ Cabinet operating at correct temperature (see "**System and Adjustment**")
- ❑ Thermometer properly calibrated (see "**Thermometer and Calibration**")
- ❑ Condensate vaporizer installed correctly (see "**Condensate Removal**")
- ❑ All refrigeration lines free of kinks and excess vibration (see "**Refrigeration System**")
- ❑ Condenser and evaporator fans rotate freely (see "**Refrigeration System**")
- ❑ Freezers only: defrost time clock set correctly (see "**Freezer System and Adjustment**")
- ❑ All pilaster clips installed securely and shelves are level (see "**Shelving Installation**")
- ❑ All packing materials discarded and cabinet properly cleaned (see "**Periodic Cleaning**")

The system should run smooth and quietly in accordance with generally accepted commercial standards. If any unusual noises are heard, turn the unit off immediately and check for any obstructions of the condenser or evaporator fans. Fan motors, fan blades, or fan housings can be jarred out of position through rough handling in transit or during installation.

REMOTE APPLICATIONS

All products are available for purchase as remote models, in which case the condensing unit is not supplied with the cabinet. All remote models come standard on 6" legs, with an expansion valve in the evaporator housing, as well as stubs for the liquid and suction refrigeration line connections. Installation of the refrigeration accessories, condensing unit, and electrical hookup should be performed by qualified refrigeration personnel of a competent refrigeration company only (**see "Remote Set-Up and Installation Guidelines" under "Optional Accessories"**).

OPERATION

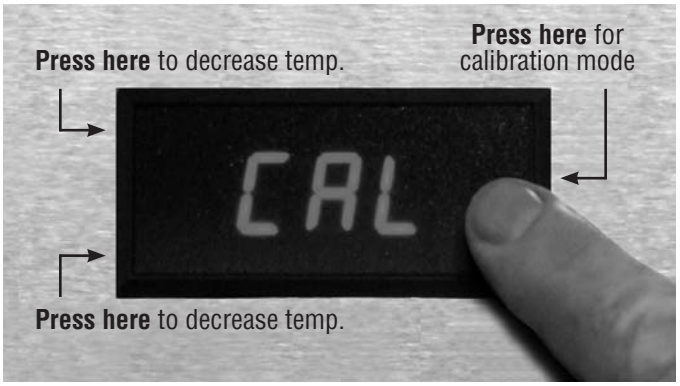
All cabinets must be given sufficient time to reach normal operating temperature before placing any product inside cabinet. Refrigerators are designed to maintain ideal cabinet temperature of 3° to 4°C (38° to 40°F). Approximately 2 hours of operation is required to reach this temperature. Freezers are designed to maintain ideal cabinet temperature of -20° to -18°C (-4° to 0°F) and Low Temp Freezers -28° to -26°C (-19° to -15°F). Approximately 4 hours of operation are required to reach this temperature.

DIGITAL THERMOMETER AND CALIBRATION

Your NSF-approved thermometer has a remote sensing bulb, located inside the cabinet on left-hand wall. The easy to read 24-Volt LED display is calibrated at the factory to accurately show temperature at the center of the refrigerated compartment. While in transit, your cabinet will be subjected to more jarring and vibration than at any other time, and the thermometer may require adjustment at start-up.

Refrigerators are designed to maintain 3° to 4°C (38° to 40°F); Freezers -20° to -18°C (-4° to 0°F) and Low Temp Freezers -28° to -26°C (-19° to -15°F). During periods of heavy use, when doors are opened repeatedly or remain open for an extended period, or if warm product is loaded into the cabinet, the temperature displayed may temporarily exceed the “normal” range. This is common, as warm air outside the cabinet mixes with cold air inside. If your thermometer continues to display temperature above “normal” range, close the doors, make sure they seal tight and keep them closed for at least 30 minutes. If a high temperature is still displayed, check the thermometer by placing a pre-calibrated temperature sensing device in the center of the refrigerated compartment and keep the doors closed for at least 15 minutes. The thermometer display should read the same temperature as the sensing device, within +/-1°C (+/-2°F). If it does not, follow the instructions below to calibrate the thermometer display, by adjusting the offset value as required.

To calibrate, press on the right center of the front display twice (**see photo**). After the first press, “CAL” will appear (unit is in Calibration mode). After the second press, the temperature offset value (-30 to 30) will appear.



Once you see this, press on the front lower left to decrease temperature displayed, or on the upper left section to increase temperature displayed. After adjusting the offset, press the right center of the front display again to exit calibration mode. Wait 10 to 15 seconds for the cabinet temperature to appear and recheck the display calibration.

For example, if sensing device in the cabinet reads 2° and thermometer displays 5°, press on the front right of the display twice to show the current offset value. Then press the lower left of the display three times to decrease offset by 3°. (If the original offset value displayed was “0”, then “-3” will appear.)

NOTE: The buttons need to be pressed without delay between actions. Contact the factory with any questions.

ANTI-CONDENSATE CONTROL

All Continental upright models feature an anti-condensate door heater switch, located on the front grill (**see Figure 2 & 2A**). To save energy, move the switch to the OFF position to deenergize the heaters around the perimeter of the cabinet door openings. If you ever notice moisture accumulating on the face of your cabinet, move the switch to the ON position to energize the heaters. This will warm the face of the cabinet, eliminating any condensation that may accumulate.

Refrigerators and freezers built after January, 2010 have an energy saving thermal limit switch, mounted in the control box (**see Figure 9 & 9A**). This device automatically monitors ambient conditions and turns the anti-condensate heaters off whenever they are typically not required. The switch automatically turns the heaters back on when the temperature rises to a level when the additional heat is normally needed to eliminate condensation.

REFRIGERATION SYSTEM AND ADJUSTMENT

All self-contained refrigerators are designed and factory set to maintain an average cabinet temperature of 3° to 4°C (38° to 40°F). The temperature control is accessible from the top of the electrical console box located on the cabinet top behind the front grill (**see Figure 9 & 9A**). If an adjustment is necessary to maintain the above temperature range only, place a screwdriver into the thermostat slot and turn clockwise for a colder cabinet temperature or counterclockwise for a warmer cabinet temperature. Further adjustments out of the factory design temperature range must be made by a qualified refrigeration mechanic only.

IMPORTANT NOTE: All refrigerators are designed with an automatic, "off-cycle" defrost system which means that defrosting occurs automatically when the compressor is not operating during an off-cycle. Do not set the thermostat too cold where the cabinet temperature will fall below 2°C because the evaporator will become blocked by ice since the compressor off-cycle will be considerably shortened. This will result in loss of product stored within the cabinet and require service to defrost the evaporator and re-adjust the thermostat.

FREEZER SYSTEM AND ADJUSTMENT

All self-contained and low-temperature freezers are factory set to maintain an average cabinet temperature of -20° to -18°C (-4° to 0°F) and Low Temp Freezers -28° to -26°C (-19° to -15°F). These products are designed to hold pre-frozen bulk product and although they are capable of freezing small quantities of non-frozen product, they are not to be used as fast or blast freezers. **DO NOT ATTEMPT TO FREEZE BULK QUANTITIES OF PRODUCT**.

The temperature control is accessible from the top of the electrical console box located on the cabinet top behind the front grill (**see Figure 5**). If an adjustment is necessary to maintain the above temperature range only on standard freezers, place a screwdriver into the thermostat slot and turn clockwise for a colder cabinet temperature or counterclockwise for a warmer cabinet temperature. On low-temperature freezers, place a screwdriver into the left thermostat adjustment screw (**do not turn the right differential adjustment screw**) and turn clockwise for a colder cabinet temperature or counterclockwise for a warmer cabinet temperature. Further adjustments out of the factory design temperature range must be made by a qualified refrigeration mechanic only.

AUTOMATIC DEFROST OPERATION

Forced-Air, Finned Evaporator Freezers

All freezer (except cold-wall models) are equipped with an automatic, electric defrost system, consisting of evaporator coil defrost and drain pan heater(s), a defrost time clock and temperature limit/fan delay switch. The system is time initiated by the defrost clock and temperature terminated by an automatic limit switch. During each defrost period, the condensing unit and evaporator fans go off, while the defrost heater(s) are energized. After termination of a defrost cycle, the heaters go off and the condensing unit turns on. The evaporator fans remain off (for about 20 minutes)until the coil is cools down to a preset temperature (typically 32°F). This defrost drip time, which allows any remaining water to clear off the evaporator coil, also ensures that only cold air is circulated throughout the storage compartment.

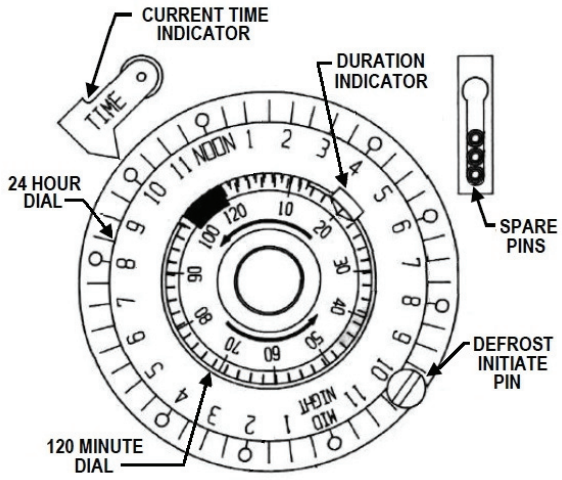
After your freezer has been properly installed and electrically connected, the defrost clock should be set for the correct time of day and desired defrost start time. For optimum efficiency, one defrost period per day is sufficient for most applications, with a fail-safe cut-off time of 20 minutes.

The time clock is located in the electrical control box, which has a window that provides access to the timer dial. The scale on the inner "120 MINUTE DIAL" indicates the maximum time in minutes for the duration of each defrost period. The scale on the outer "24 HOUR DIAL" represents the actual time of day.

To set the clock for the correct time, turn the knob at the center of the dial counterclockwise until the current time of day, as indicated by the scale on the outer dial, aligns with the arrow on the "CURRENT TIME INDICATOR" in the upper left corner.

NOTE: If there is ever a loss of power to your freezer, the clock must be reset for the correct time after power is restored, to maintain the same time of day for defrost.

To set the start time for the daily defrost period, simply unscrew the defrost pin located around the outer dial and screw it into the threaded hole on the dial face at the desired time. Spare pins can be placed in the storage slot located to the right side of the dial. In some extreme applications, where there is very heavy usage, excessively high humidity and/or constant door openings, additional defrost period(s) may be desired to ensure your evaporator remains free of any frost accumulation. To add a defrost period, simply remove a spare pin from the storage slot and screw it into the threaded hole at the desired time on the dial. A maximum of 3 defrost periods a day, with 8-hour intervals between defrost periods, is acceptable.



NOTE: Contact factory before making any modifications to the settings. Improper adjustments can cause problems with your unit, including loss of product and evaporator freeze ups, which are not covered under warranty.

IMPORTANT NOTE: All freezers have a unique, energy saving defrost cycle as described above. Settings should only be changed as noted, to minimize electrical consumption and provide the most efficient heating cycle. This fail-safe defrost duration time is factory set and should not require any further adjustment. As explained, after defrost the automatic fan delay prevents evaporator fans from operating until the coil has reached a preset temperature minimizing warm air circulation in the cabinet. During start-up and after each defrost cycle, the fans will not turn on immediately.

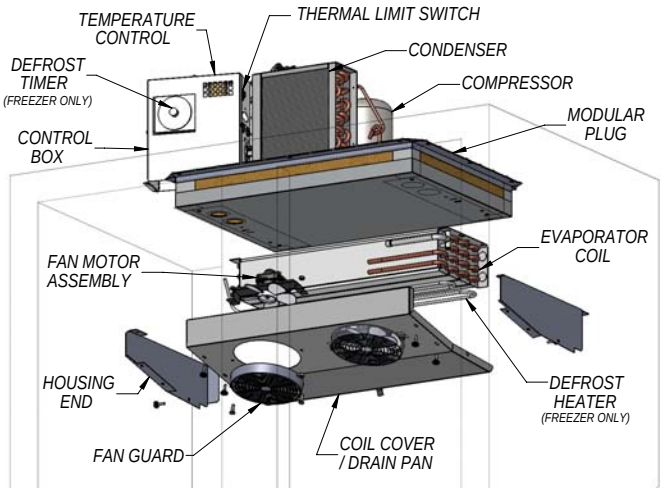
REACH-IN REFRIGERATION SYSTEM

Ceiling-Mount Evaporator

The low-profile evaporator system is comprised of a generous sized, evenly matched evaporator and air circulating fans contained within an easily accessible, low silhouette, interior ceiling mounted housing (**see Figure 8**). A control box, located on top of the cabinet, contains the temperature control, thermal limit switch, defrost time clock (for freezers) and other electrical components.

All reach-in refrigerators and freezers built after June, 2009 have a unique, modular refrigeration system. The complete, fully charged refrigeration unit can be easily removed from the cabinet for locations with restricted access for installation, servicing, conversion from a refrigerator to freezer (or vice versa) or other needs. Contact the service department for more information.

FIGURE 8: Ceiling-Mount Evaporator Refrigeration System

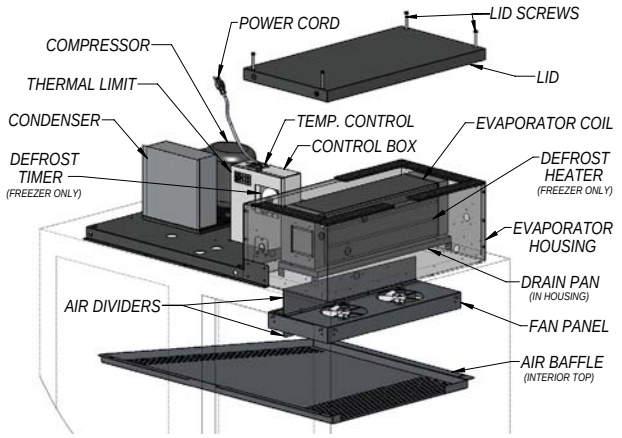


TOP-MOUNT PLUG BOX REFRIGERATION SYSTEM

Evaporator Housing on Top of Cabinet

The plug-type evaporator system is a unique system in which the evaporator coil and air circulating fans are contained within a concealed plug-type insulated housing, readily accessible on the top of the cabinet and separate from the food storage zone (**see Figure 8A**). The entire plug system is fully charged with refrigerant and mounted on a steel rail type base which can be easily removed from the cabinet for locations with restricted access for installations, or if a field conversion (refrigerator to freezer or vice versa) is desired. Before attempting to remove plug assembly, consult factory.

FIGURE 8A: Top-Mount Evaporator Housing Refrig. System



COLD WALL SYSTEM DEFROST AND ADJUSTMENT

On cold wall models, heat is removed from the storage space through the interior walls, which are chilled by cooling tubes embedded in the insulation behind the interior top, back and side walls (**see Figure 8B**). Since the wall temperatures are well below freezing 0°C (32°F), it is normal for condensation and frost to form on the inside walls. The interior walls should be wiped down regularly with a dry cloth, to remove any moisture accumulation.

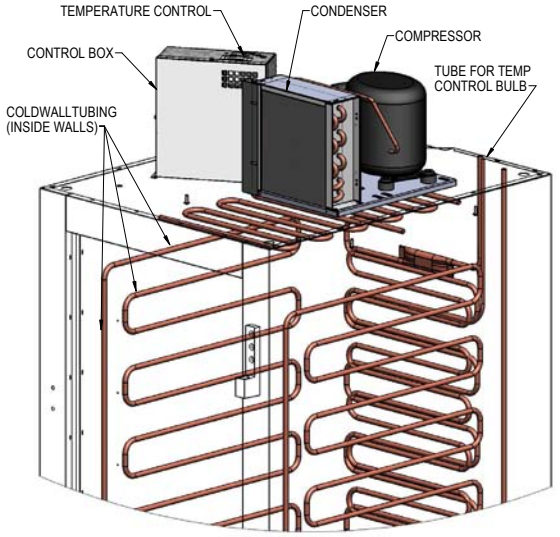
Cold wall models should be manually defrosted periodically, to minimize ice accumulation on the interior walls. To defrost your unit, unload all product and place it temporarily in a separate, refrigerated storage unit. Keep the doors open and disconnect power to the cabinet by unplugging the power cord for approximately 30 minutes. This will allow any frost to melt. Any water that accumulates on the sides or bottom of the cabinet must be removed and wiped dry with an absorbent cloth or towel. After the cabinet is dry, restore power to the unit and wait at least 60 minutes before reloading with product.

IMPORTANT: Do not attempt to speed up the de-icing process by scraping or chiseling frost build up on the cabinet, as you may puncture the walls and refrigeration tubing located behind them, resulting in an expensive repair that is not covered under your warranty.

The temperature control on cold wall models is located in the electrical console box on top of the cabinet, behind the front grill (**see Figure 8B**). Remove the front grill by taking out the 2 screws at each end. Gently pull the grill forward, away from the cabinet, being careful not to damage the tubing from the thermometer to the sensing bulb. If adjustment is necessary to maintain the above temperature range only, place a screwdriver in the thermostat CUT-IN adjustment screw as shown and turn clockwise for a colder cabinet temperature or counterclockwise for a warmer cabinet temperature. Do not change the DIFFERENTIAL adjustment screw setting.

IMPORTANT: Any adjustments out of the factory design temperature range must only be made by a qualified refrigeration mechanic.

FIGURE 8B: Cold Wall System



INTERIOR ACCESSORIES

The standard accessory package supplied with your new cabinet includes pilaster strips with clips (four (4) clips per shelf), three (3) epoxy coated shelves per section, and four (4) epoxy coated shelves per section on glass door models only.

SHELVING INSTALLATION

Pilaster strips which support the shelving are secured to the cabinet walls with special pilaster screws which allow the strips to be readily removed for cleaning without the use of tools. Shelf clips are easily installed by inserting them into the pilasters at the desired shelf location and shelf installation is as simple as placing the shelf on the clips. The standard pilaster and clip are shown in **Figure 9**, and the optional heavy-duty pilaster and clip are shown in **Figure 9A**.

IMPORTANT NOTE: When loading shelves, allow space between rows of product for proper air circulation and leave at least a 2" air space between product and the back wall. **FOR PROPER PERFORMANCE, DO NOT LOAD PRODUCT AGAINST THE BACK WALL.**

FIGURE 9: Standard Shelf Support

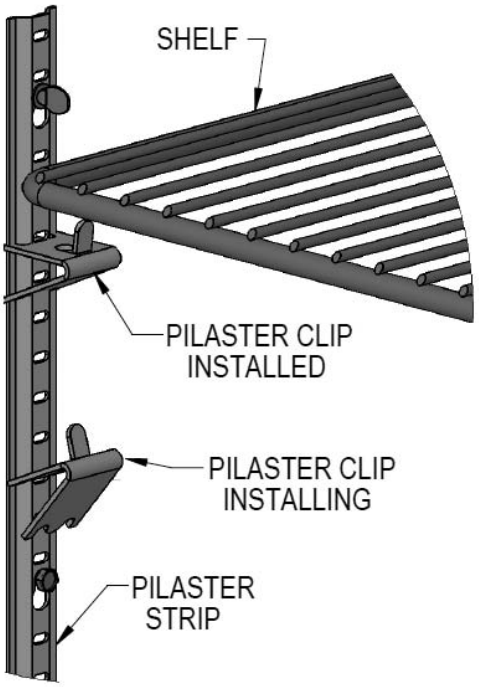
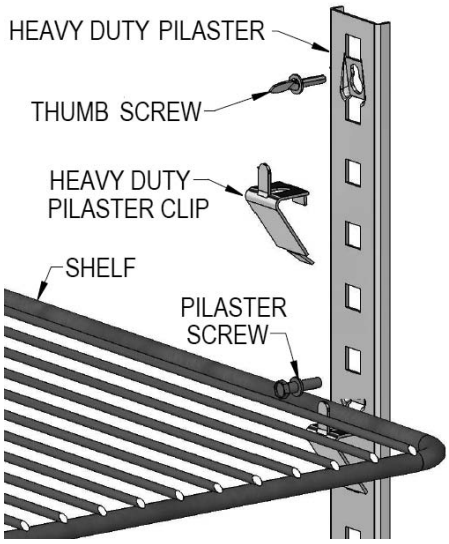
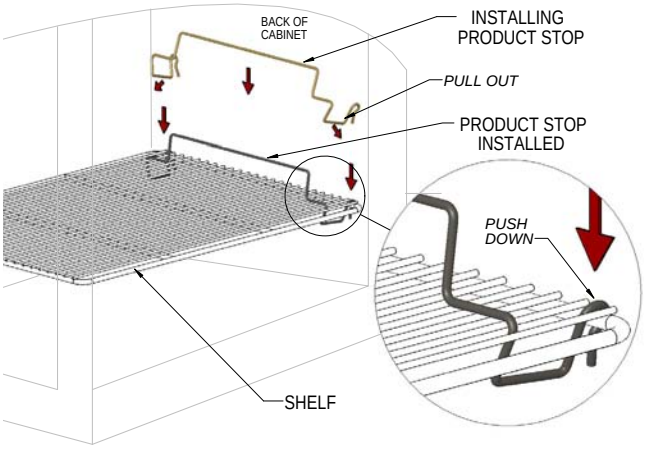


FIGURE 9A: Heavy Duty Shelf Support



To ensure proper air flow down the inside back wall of your cabinet, some models are provided with product stops that snap onto the shelves (**see Figure 9B**). To install, place a product stop over a shelf as shown and press it down onto the shelf. If necessary, carefully pull out on the ends of the product stop, so the bottom of the rod snaps over the shelf wire. Press down on the hooks at ends of the product stop, to they snap over the back of the shelf frame. Repeat for remaining shelves. Make sure product stops are positioned at the back of your cabinet.

FIGURE 9B: Product Stop



MAINTENANCE

SAFETY PRECAUTIONS

DISCONNECT THE POWER CORD BEFORE ATTEMPTING TO WORK ON OR CLEAN EQUIPMENT. DO NOT ATTEMPT TO REMOVE ANY COVERS OR PARTS YOURSELF, AS THIS CAN EXPOSE DANGEROUS, HIGH VOLTAGE WIRING. SERVICE SHOULD ONLY BE PERFORMED BY A QUALIFIED TECHNICIAN. ALWAYS ROUTE POWER CORDS AWAY FROM AREAS WHERE THEY CAN BE WALKED ON OR DAMAGED BY OTHER EQUIPMENT. YOUR APPLIANCE IS EQUIPPED WITH A POLARIZED, GROUNDED POWER PLUG. NEVER ATTEMPT TO REMOVE THE GROUND POST OR USE A NON-POLARIZED ADAPTER, WITHOUT PROPERLY GROUNDING THE EQUIPMENT.

PERIODIC CLEANING PROCEDURE

It is always best to clean your refrigerator or freezer when the product load in your cabinet is as its lowest level. To clean the interior or exterior cabinet surfaces, follow these procedures:

1. Disconnect your cabinet from its power supply, remove all product from inside and temporarily move it to a walk-in or other refrigerated storage.
2. Open all doors and allow the cabinet to reach room temperature. Remove all accessories (shelves, racks, pilasters, clips, etc.) from inside and wash them with a baking soda and warm water solution, rinse thoroughly with clean water. Dry all accessories completely with a soft clean cloth.
3. Once the cabinet has reached room temperature, wash all inside and outside surfaces with a solution of warm water and baking soda. Pay particular attention to the face of the cabinet, as any residue or debris can impair the door seal. For slightly more difficult cleanups, ammonia or vinegar in warm water can be used. Rinse thoroughly with clear water and dry with a soft clean cloth. Carefully wash all of the vinyl door gaskets with clean water, dry them and check for any damage, which may affect the seal. Failure to dry all surfaces completely may cause water stains or streaking on the aluminum or stainless steel finish.
4. Return all accessories to their original locations, reconnect the power. Wait at least 1 hour before reloading product.

PRECAUTIONS

NEVER USE HARSH DETERGENTS, ABRASIVE CLEANERS, SCOURING POWDERS, OR CHEMICALS CONTAINING HALOGENS (CHLORINE, FLUORINE, IODINE, ETC.) WHEN CLEANING YOUR UNIT. CONCENTRATED IODINE OR IRON EXTRACT, WHICH CAUSE DISCOLORING, SHOULD BE RINSED OFF IMMEDIATELY IF CONTACT OCCURS. SEE "CLEANING OF STAINLESS STEEL" SECTION FOR MORE INFORMATION.

GENERAL PREVENTATIVE MAINTENANCE

The most important thing you can do to maintain any refrigerator or freezer and extend its life, is to keep the condenser clean. Performance of the air-cooled condensing unit, located on top of the cabinet, depends exclusively upon the amount of air passing through the condenser fins. Your refrigerator or freezer will run more efficiently, consume less energy, and provide a maximum of trouble-free service throughout its lifetime if the condenser is kept clean and an adequate supply of clean, cool air is provided at all times. Periodically (at least once a month) inspect the condenser coil, which is located directly behind the front grill, to check for debris or blockage.

If the condenser coil is dirty or dusty, disconnect the cabinet power supply and use a stiff brush to wipe away any dirt and debris from the condenser fins. Using a vacuum cleaner with a brush attachment may aid in this process. After cleaning, restore electrical service to your model.

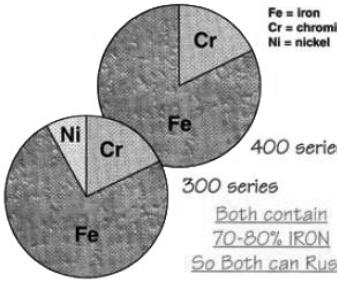
CAUTION: CONDENSER FIN PLATES ARE MADE FROM THIN METAL AND HAVE SHARP EDGES. ALWAYS WEAR GLOVES. USE CAUTION WHEN WORKING ON OR AROUND THE CONDENSING UNIT TO PREVENT CUTS AND AVOID DAMAGING FINS, TUBING AND OTHER COMPONENTS. FAILURE TO PROPERLY CLEAN THE CONDENSER REGULARLY WILL CAUSE EXCESSIVE COMPRESSOR LOAD, REDUCING THE PERFORMANCE AND EFFICIENCY OF YOUR UNIT. THIS CAN RESULT IN PREMATURE FAILURE AND VOID YOUR WARRANTY.

CARE AND CLEANING OF STAINLESS STEEL*

*Some information and graphics for this section were obtained from "Stainless Steel Equipment Care and Cleaning" brochure, published by the North American Association of Food Equipment Manufacturers (NAFEM).

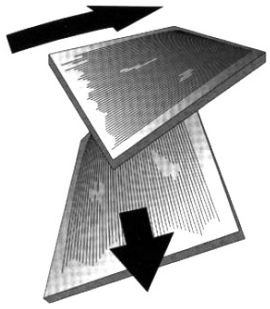
Contrary to popular beliefs, stainless steel can rust, if not properly cared for and maintained (That's why it's called stain-LESS steel, not stain-PROOF steel.)

All steel is primarily made of iron. Stainless steels contain other metals, such as chromium and nickel, that provide an invisible film on the surface of the steel that acts as a shield against corrosion. As long as this invisible layer is intact and not broken or contaminated, the metal will retain its corrosion protection and remain stain-less.



There are 3 basic things that can break down the protective layer on your stainless steel, which must be avoided:

1. **MECHANICAL ABRASION** is caused by things that scratch the surface of the metal. Only use soft cloths or plastic scouring pads to clean and always scrub in the same directions as the metal grain.

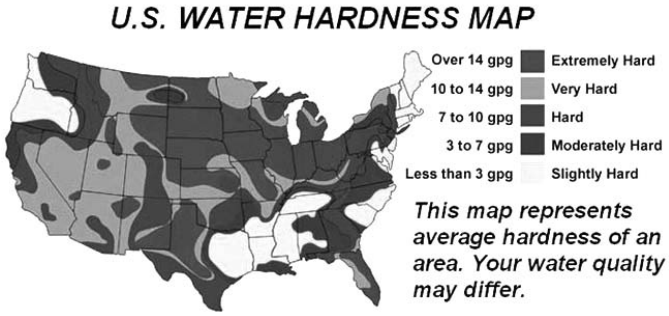


DO NOT USE: abrasive cleaners, steel pads, wire brushes, scrapers or knives to clean your equipment.

2. **CHLORIDES** are found in water, salt, food and worst of all, many cleaners. Only use chloride-free, alkaline-based, non-abrasive cleaners. Always rinse thoroughly with cool, clean water and dry with a soft towel. A solution of 1 tablespoon baking soda mixed with 1 pint water can be used to remove tough stains.

DO NOT USE: abrasive cleaners, chemicals with chlorides or muriatic acid to clean your equipment.

3. **HARD WATER** causes spots and stains on stainless steel surfaces, particularly when it is heated. Find out the hardness of your water and treat it properly, if needed. Use a water filter and softeners if you have hard water. Club soda can be used to remove streaks or spots.



DO NOT USE: hot or hard water to clean stainless steel.

CLEAN YOUR STAINLESS STEEL REGULARLY using the proper tools and cleaners. After cleaning, always **rinse, rinse, rinse** thoroughly with **cool, clean, clear water**.

CHECK ALL OF YOUR EQUIPMENT PERIODICALLY. If you see any signs of rust, clean the area immediately, with a plastic scrubbing pad. If surface rust is removed promptly, permanent corrosion, pits and cracks may be avoided. Special stainless steel polishes, that can help restore the protective coating on your equipment, are available from a variety of retailers.

IMPORTANT: If these recommendations are not followed, the protective film on your stainless steel can break down and your equipment may begin the long walk down the dark road of corrosion.

PARTS AND SERVICE

Continental is committed to providing the best customer service in the industry. All new units come with a Limited Extended Protection Warranty (**see "Warranty" section** of this manual for details). If a problem arises with your equipment, please contact our Service Department at **1-800-523-7138** (extension 3301, 3302, or 3303). One of our Service Specialists will do everything possible to solve the problem as quickly as possible.

ITEMS NOT COVERED UNDER WARRANTY INCLUDE, BUT ARE NOT LIMITED TO:

- **Preventative maintenance:** cleaning condenser coils and other components.
- **Consumables:** light bulbs, door gaskets, batteries.
- **General hardware adjustments:** cabinet leveling, casters/legs, doors/hinges.
- **Problems due to:** inadequate installation or supply power; improper maintenance, operation, or abuse.
- **Compressor failure due to:** dirty condenser, insufficient clearance/ventilation, excessive temperatures.
- **System adjustments and calibrations, including:** controls, thermometer and expansion valves.

Consult the Table of Contents in the front of this manual for detailed information on the items listed above. Contact Continental's Service Department with any additional questions.

PLACING A SERVICE CALL

In order to receive prompt service, always be prepared to provide your: cabinet model and serial number; cabinet location name and date installed; contact name and phone number; plus a description of the problem.
During normal business hours (Monday to Friday, 8am to 5pm Eastern) contact the Service Department at: **1-800-523-7138** (extension 3301, 3302, or 3303) **prior to any warranty service work being performed**.

After normal business hours, or on weekends, notify our Service Department by sending an email to: **jcadwallader@nrac.com**, or leaving a voice message at: **1-800-523-7138** (extension 3301). Be sure to provide the information listed above. Contact Continental the following business day, during normal business hours, to verify the status of your call.

OBTAINING REPLACEMENT PARTS UNDER WARRANTY

If replacement parts are required for a unit under warranty, contact Continental's Service Department. New parts will be sent from the factory and, when applicable, a Return Goods Authorization (RGA) will be issued to return old parts. The RGA number must appear on the packaging of any parts returned, or they will not be accepted. If a service agent uses a part from their stock, Continental will replace it with a factory part.

OBTAINING REPLACEMENT COMPRESSOR UNDER WARRANTY

If the compressor should fail within the first twelve (12) months of use, or within twenty (20) months from the date code on the compressor, an "over-the-counter" exchange must be made at an authorized Copeland, Danfoss, Embraco, or Tecumseh wholesaler.

After the first year, the compressor motor is covered under an extended "parts only" warranty. The customer is responsible for any labor charges and any additional parts that may be required. Contact the Service Department to obtain a replacement compressor through one of the following methods:

- Continental will supply a replacement compressor at no charge and pay for regular freight. (If expedited freight is requested, the end user, dealer or service agent is responsible for additional charges and must provide credit card information.
- A compressor can be purchased locally and Continental will either replace the stock unit with a new factory compressor, or offer an allowance towards the purchase of a replacement compressor, up to: $100 for 1/5hp to 1/3hp; $250 for 1/2hp to 3/4hp; $350 for 1hp to 2hp.

The data tag from the defective compressor (or compressor model, serial number and date code, if the tag cannot be removed) must be included with any reimbursement request.

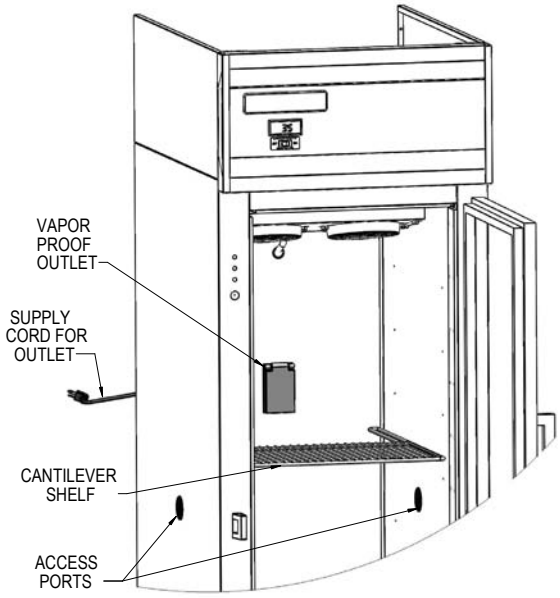
OPTIONAL ACCESSORIES

Continental offers a variety of accessories for your unit.

CHROMATOGRAPHY REFRIGERATORS

(*Shelf, Vapor-Proof Receptacle, Access Port*)
Laboratory refrigerators for secure chromatography applications are provided standard with cantilever shelves. One vapor-proof receptacle is provided in the back of each section, with an external supply cord and plug that must be connected to a separate, suitable power source. An access port is also provided in each end of chromatography cabinets. After routing any cables through an access port, ensure the opening is sealed, to avoid air leakage and possible condensation around the port.

FIGURE 10: Chromatography Accessories CH1R



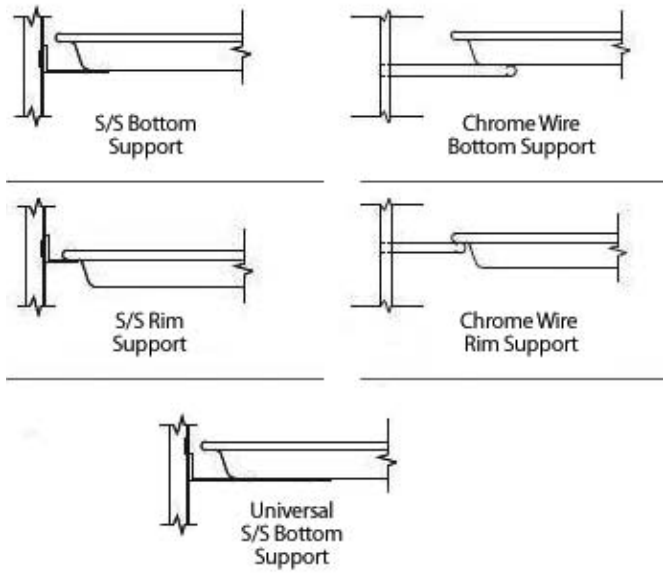
PRESSURE RELIEF VENT PORT

An optional Vent Port can be supplied on new cabinets, to provide equalized air pressure between the interior and exterior, caused by sudden temperature changes, primarily due to door openings. The port, located in the side or back wall of the cabinet, has a two-way flapper that is maintenance-free, but should be checked periodically for proper operation and to ensure no frost accumulates in the vent.

PAN SLIDE ASSEMBLIES

Pan slide assemblies are available in a variety of configurations (**see Figure 11**). The unique design of the vertical supports allow the pan slides to be mounted on 1" centers and be readily removed for cleaning, without the use of tools or additional hardware. If your new unit was ordered from the factory with pan slides, the vertical supports will be pre-installed directly on the outer walls of the cabinet. On 2- and 3-section cabinets, the vertical pan supports in the middle of the cabinet are mounted to center supports as shown (**see Figure 11A**). The pan slides are wrapped up in the accessory package, inside the cabinet.

FIGURE 11: Pan Slide Assembly Configurations



PAN SLIDE INSTALLATION

Pan slides should be installed in pairs, to ensure each set is level at the same height. Before installing the slides, determine the spacing desired between each pan that will be placed in the cabinet. Align one of the pan slides against the vertical support (**see Figure 11A**). Simultaneously insert the (2) studs on the slide into the upper end of the slot on the vertical supports at the desired height and the pan slide will simply drop down and lock into place. Install another slide into opposite vertical supports, using the same method. Check that the pair of slides are level and at the proper height. Repeat this procedure for the remaining sets of pan slides.

FIGURE 11A: Pan Slide Assembly Components

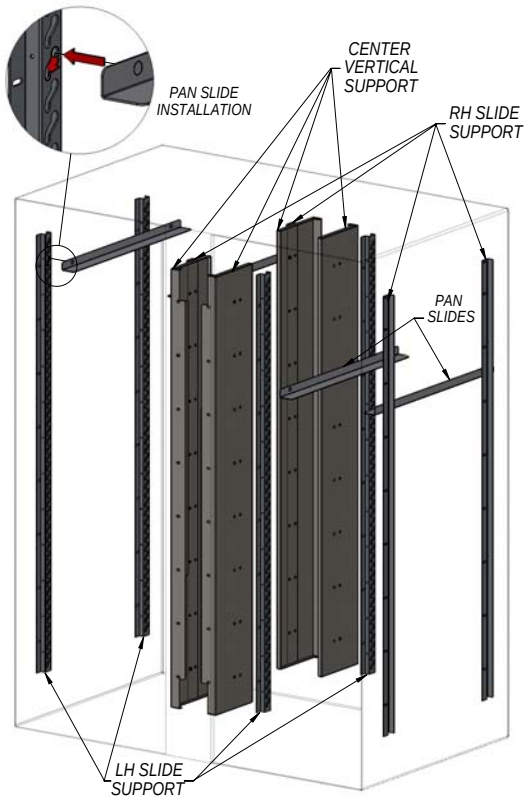
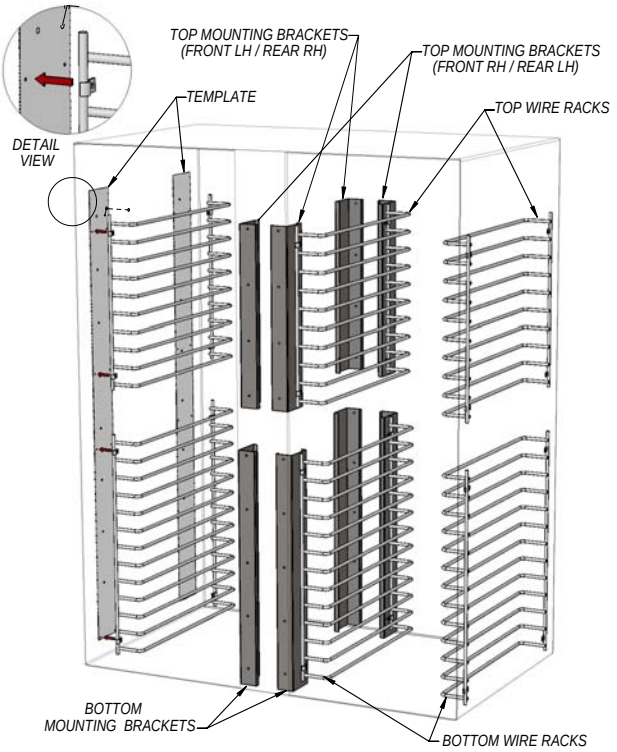


FIGURE 11B: Wire Rod Pan Slides


TOP MOUNTING BRACKETS (FRONT LH / REAR RH)
TOP MOUNTING BRACKETS (FRONT RH / REAR LH)
TEMPLATE
TOP WIRE RACKS
DETAIL VIEW
BOTTOM MOUNTING BRACKETS
BOTTOM WIRE RACKS

WIRE PAN SLIDE RACKS

Reach-In & Pass-Thru Models

Wire rod pan slide racks are attached directly to the left and right walls in the cabinet and to vertical mounting brackets in the center sections, between the doors, on 2 & 3-section models (**see Figure 11B**). To install Wire Pan Racks in a unit that previously had shelves or metal pan slides, mounting holes will need to be drilled in the side walls of the cabinet. Contact the service department for detailed instructions and a template for locating the mounting holes.

INTERIOR ROLL-OUT DRAWERS

Optional interior roll-out drawers are available for most models (**see Figure12**). The drawers are mounted to vertical posts inside the cabinet and the height is adjustable for different configurations to suite your requirements. Each telescoping drawer slide assembly includes a cabinet member that mounted to the vertical side supports, a center sliding member with ball bearings, and a drawer member mounted to the side of the drawer body. A finger release clip, mounted to each drawer member, keeps the drawer from accidently sliding out too far.

To completely remove a drawer from the cabinet, pull the drawer all the way out until it stops on the retaining clips. Separate the drawer assembly from the cabinet by pushing down on the right side clip and up on the left side clip while simultaneously pulling the drawer assembly forward and out of the cabinet. Before reinstalling the drawer, make sure the ball bearing retainer is pulled forward against the black plastic guides on the front of the middle member, to allow the tapered ends of the drawer member to pass in between the balls on the retainer. Align the drawer members, so they pass freely thru the guides on the

middle members and push the drawer assembly all the way in. There may be some resistance the first time to synchronize all the balls in the retainer. Never use excessive force when inserting a drawer, as this may cause damage to the retainers.

FIGURE 12: Interior Roll-Out Drawers

(3-TOP & 3-BOTTOM SHOWN)

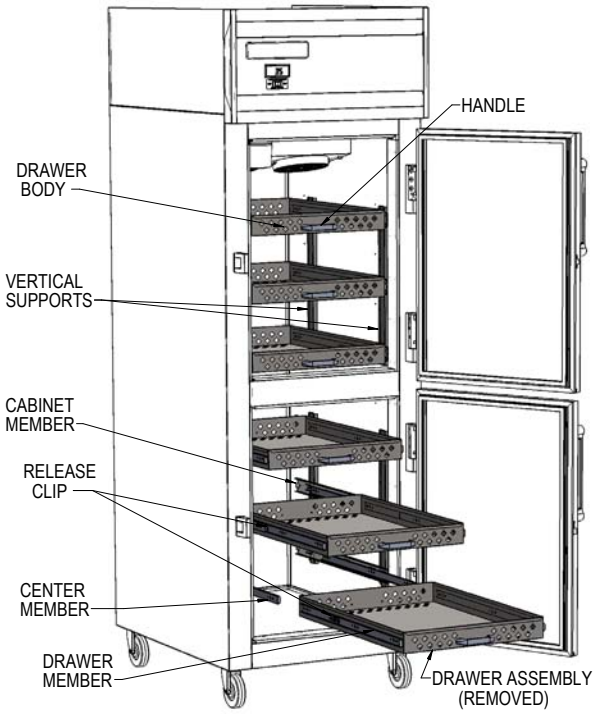


CHART RECORDER

The 7-Day Chart Recorder, available as an option on most new models, features a large 6" diameter paper chart (**see Figure 13**) battery backup, and inkless pen that never needs replacing. When the recorder is powered on, the indicator light (located to the bottom left of the chart) will stay lit continuously. The indicator light will flash for up to 24 hours (with a fresh battery) if there is a power failure to the recorder, either due to loss of main power or weak battery. If the indicator light is flashing and the main supply power is providing full line voltage to the recorder, then the 9 volt backup battery needs to be replaced. *Additional information and replacement charts are available from the manufacturer of the chart recorder.*

To replace the 9V battery, open the front door by lifting on the release latch and rotating the door open (**see Figure 13**). Locate the battery at the top right of the chart, carefully disconnect the supply wires and remove the battery from the retaining clips. Install a new 9 volt alkaline battery in the clip, attach the supply wires securely, close and latch the door.

CHANGING CHART PAPER

To change the paper chart, open the front door and locate the '3' button (labeled "CHANGE CHART"), at the top left of the chart (**see Figure 13**). Press and hold the '3' button briefly, just until the pen arm begins to move to the left. Release the button and allow the pen to move completely off the chart.

NOTE: The indicator light will turn off while the recorder is in the "CHANGE CHART" mode.

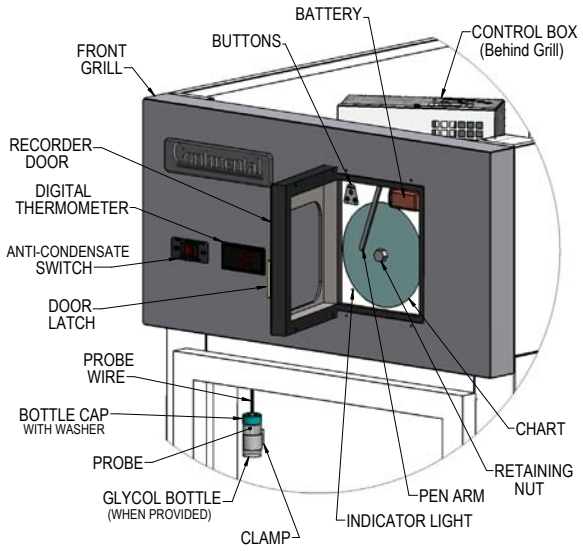
Remove the paper by turning the retaining nut (at the center of the chart) counter-clockwise to unscrew it. Lift the old paper out and position the new chart so the current day and time coincide with the time indicator groove (located to the left of the chart). Reinstall the retaining nut by screwing it by hand securely against the chart. Press and hold the '3' button briefly again, just until the pen begins to move back onto the chart. Release the button, allow the pen to move to its final position and make sure the pen is marking on the chart paper. If it is not, carefully adjust the pen arm to establish contact with the paper. Close and latch the recorder door.

CALIBRATING CHART RECORDER

Your recorder has been accurately calibrated at the factory and should be in service for at least 24 hours before making any adjustments. To the check temperature calibration, place a certified test thermometer in a solution bottle alongside the recorder's sensor probe. Wait until the temperature readings stabilized and compare the position of the pen on the recorder to the test thermometer reading

If adjustment is required, open the front door and locate the '1' (left arrow) and '2' (right arrow) buttons, at the top left of the chart (**see Figure 13**). To move the pen position to the left, press the (>) button and hold it until the pen begins to move (after approximately 5 seconds). Release the button when the pen is at the desired position. Press and hold the (<) button the same way to move the pen position to the right, if required. Once the temperature indicated on the chart corresponds with the temperature shown on the test thermometer in the solution, close the door and return the temperature probe to its original position.

FIGURE 13: Chart Recorder Glycol Bottle



GLYCOL BOTTLE

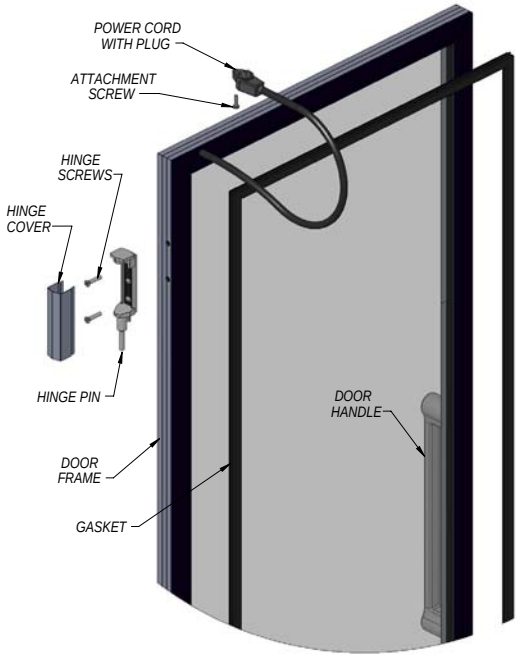
An optional Glycol Bottle is available, which can be filled with ethylene glycol solution (not included) to provide a thermal buffer. This stabilizes the temperature probe measurements to prevent inaccurate readings and false alarms due to erratic changes in air temperature from door openings. The Glycol Bottle has a septum lid with a round opening on the top and a white rubber washer, for inserting and sealing in your temperature probe.

To utilize this feature, open the door of your refrigerator or freezer and locate the Glycol Bottle (typically attached to the side wall with a clamp). Carefully remove the glass bottle from the clamp and unscrew the cap. If you are inserting a probe in the bottle for the first time, use a knife to puncture a slit in the center of the white rubber washer. Insert the probe through the hole in the top of lid and press the probe tip through the slit in the washer. Fill the bottle with your ethylene glycol solution, allowing enough space for the probe without overflowing. Place the probe into the bottle and tighten the lid. Clamp the Glycol Bottle inside the cabinet, with the probe securely in place. *Note: Use care when handling, as the glass bottle is fragile and the glycol solution can be slippery.*

HINGED GLASS DOOR REMOVAL AND ADJUSTMENT

Removal and adjustment of hinged glass doors are similar to solid doors except that heated glass doors have an electrical cord attached to the cabinet. Before attempting to remove a glass door, disconnect the cabinet from the power supply. Using a Phillips screwdriver, loosen the retaining screw from the molded plug and gently pull the plug out of the molded receptacle. Carefully pry off all hinge covers using a sharp tool or knife (**see Figure 14**). Swing the door to the open position (90°) and carefully lift the door upward, so the hinge pin (attached to the door) clears the hinge body (mounted to the cabinet). If it is necessary to remove the hinge bodies from the cabinet, use caution when loosening the top hinge body, as they contain the light switch actuator (**see Figure 7A**).

FIGURE 14: Hinged Glass Door Components



SLIDING GLASS DOOR REMOVAL AND ADJUSTMENT

All sliding glass doors are easily removable for thorough cleaning. To remove the doors, slide the outer door (**see Figure 15**) open about half way, grasp the door on both sides and lift straight up, off roller track, which will remain in the mounting frame. Tilt the bottom of the door out, so it clears the locating studs on the roller track and the bottom of the mounting frame. Gently set the door down, being careful not to over-stretch the self-closing spring and power cord that are attached to the top of the door. Move the door towards its closed position, to release any tension on the spring and power cord. The roller track will simply lift out of the channel in the bottom of the mounting frame. Repeat this procedure for the inner door.

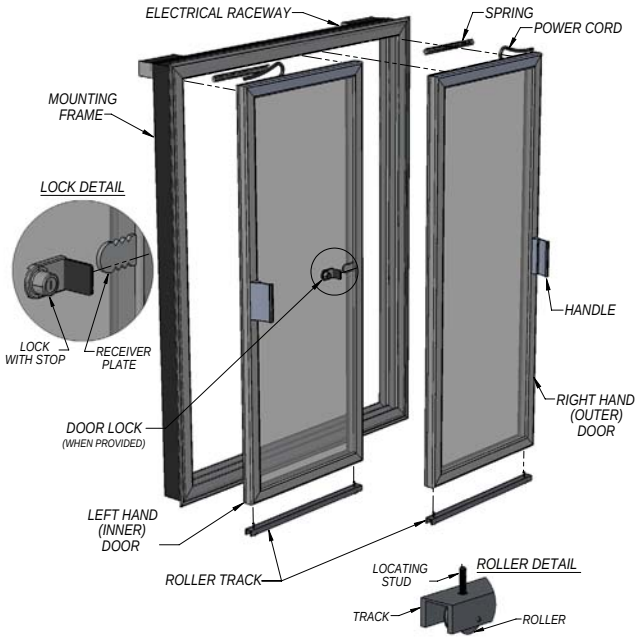
To replace the doors, reverse the steps above, making sure the door seats properly over the locating studs on the roller track.

If your sliding door does not close firmly, remove the doors, starting with the outer door, as described above. Check the bottom of the door, mounting frame channel, and rollers to make sure they are clean and free of debris. If the rollers are damaged or do not turn freely, contact the factory to order replacement parts. The tension on the self-closing spring is adjustable, to provide quicker and firmer closing, or to provide slower and more gentle movement. Remove the screw attaching the end of the self-closing spring to the top of the door. Note that there are (3) threaded holes provided in the top of the door. To adjust the door so it closes slower, reattach the spring at a position closer to the handle side of the door. For a faster, firmer closing, relocate the spring at a position further away from the handle side of the door.

If the door does not seal evenly along the handle side when in the closed position, the tilt of the door is adjustable. A flat washer can be placed over the locating stud on the top of the roller track, between the track and the underside of the door, to level the door. For example: if the door contacts the mounting frame at the top when it is closed, but there is a gap at the lower half of the side edge, remove the door as described above. After lifting the door off the roller track, place a flat washer over the stud located closest to the handle side of the door. Replace the door, recheck the seal, and readjust if needed. (To close a gap at the upper half of the door, place a washer over the locating stud farthest from the handle side of the door.)

IMPORTANT NOTE: The glass used in sliding or hinged glass doors is of special, sealed pane design and cannot be replaced with ordinary window or plate glass. If it becomes necessary to replace the glass, it can be obtained directly from the factory.

FIGURE 15: Sliding Glass Door Components



DIGITAL THERMOMETER WITH ALARM

Your NSF-approved digital thermometer with alarm provides precise temperature indication from a remote sensing bulb, located inside the cabinet on the left-hand wall. Additional features include:

- Large, easy to read LED display (24-Volt AC)
- Data logging highest and lowest temp
- Flashing display visual alarm
- Battery backup (9-volt battery not included)
- Adjustable alarm set points (2)
- Alarm reset switch (manual, automatic)
- NO/NC alarm relay contacts (1 amp)
- Switchable alarm delay (0 or 45 minutes)
- 24VAC output for audible alarm (by others)
- Switchable audible silencing (none, 5 or 45min)

While in transit, your cabinet is subjected to more jarring and vibration than at any other time, and the display may require some adjustment at start-up. Refrigerators are designed to maintain 3° to 4°C (38° to 40°F), Freezers -20° to -18°C (-4° to 0°F) and Low Temp Freezers -28° to -26°C (-19° to -15°F). During periods of heavy use, when doors are opened repeatedly or remain open for extended period, or if warm product is loaded in the cabinet, the temperature displayed may temporarily exceed the "normal" range. This is common, as warm air outside the cabinet mixes with cold air inside. If your thermometer continues to display temperature above "normal" range, close the doors, make sure they seal tight and keep them closed for at least 30 minutes. If a high temperature is still displayed, check the thermometer by placing a pre-calibrated temperature sensing device in the center of the refrigerated compartment and keep the doors closed for at least 15 minutes. The thermometer should display the same temperature as the sensing device, within +/-2°F (+/-1°C). If it does not, follow instructions below for calibration mode to adjust the offset.

ADJUSTING PROGRAM SETTINGS

Press 'SET' on front to display settings in this order:

HSP **-40 to 199**	= High Alarm Set Point = High Set Point value*
LSP **-40 to 199**	= Low Alarm Set Point = Low Set Point value*
HI **-40 to 199**	= High temperature log = Highest temperature recorded since reset last pressed (Press Reset to clear value)
LO **-40 to 199**	= Low temperature log = Lowest temperature recorded since Reset last pressed (Press Reset to clear value.)
CAL	= Calibration Mode
-30 to 30	= Calibration temperature display offset value*

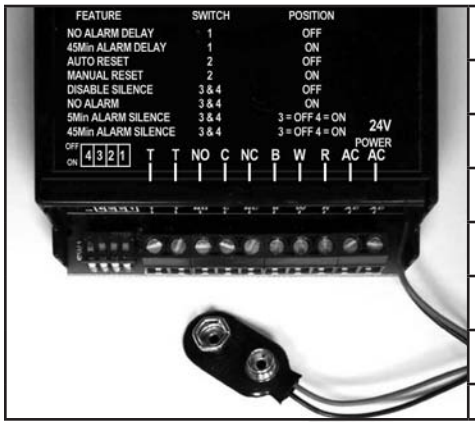
Calibration example: If sensing device in cabinet reads 2° and thermometer displays 5°, press 'SET' 10 times, to display temperature offset value. Then press down arrow three times, to decrease offset by 3°. (If original offset value displayed was "0", then "-3" will appear).

*To adjust value, press up or down arrow until desired setting is displayed. Then press 'SET' to save.

IMPORTANT: If sequence is interrupted for more than 15 seconds, or not completed to where the display flashes once, unit will automatically revert back to temperature mode, WITHOUT saving new values (tamper resistant).

If you need additional help, please contact the factory.

WIRE CONNECTIONS


FEATURE
SWITCH
POSITION
NO ALARM DELAY 1 OFF
45Min ALARM DELAY 1 ON
AUTO RESET 2 OFF
MANUAL RESET 2 ON
DISABLE SILENCE 3 & 4 OFF
NO ALARM 3 & 4 ON
5Min ALARM SILENCE 3 & 4 3 = OFF 4 = ON
45Min ALARM SILENCE 3 & 4 3 = OFF 4 = ON
24V
POWER
OFF
ON
4 3 2 1
T T NO C NC B W R AC AC

T	= Output voltage (for audible alarm)
NO	= Normally open relay contact
C	= Common relay contact
NC	= Normally closed relay contact
B	= Black sensor wire (ground)
W	= White sensor wire (signal)
R	= Red sensor wire (+5)
AC	= Power supply

DIP SWITCH SETTINGS

Switch 1	**OFF** = No alarm delay	**ON** = 45 minute alarm delay	
Switch 2	**OFF** = Automatic alarm reset	**ON** = Manual alarm reset required	
Switch 3 & 4	**OFF** = No alarm silencing	**ON** = No alarm	
Switch 3	**OFF**	**AND** Switch 4	**ON** = Alarm silenced after 5 minutes
Switch 4	**OFF**	**AND** Switch 3	**ON** = Alarm silenced after 45 minutes

IMPORTANT: All dip switch functions should be set before powering the unit on.

DEFINITIONS

Alarm Delay	Alarm activates immediately, or after time interval, when temp. exceeds set point
Alarm Silencer	Press "Reset" switch to silence the audible alarm
Alarm Silence Time	Number of minutes that will elapse until audible alarm automatically silences
Automatic Reset	Alarm will automatically stop after temperature returns within normal settings
Battery Indicator	Three dots light up on bottom of front display when battery is low or not installed
Manual Reset	"Reset" must be pressed to stop audible/ visual alarm, even if temp returns to normal
No Alarm	Audio and visual alarm functions disabled
Power out display	If power is lost, press "Reset" to display temperature and sound audible alarm

MOUNTING CASTER SUPPORT PLATES

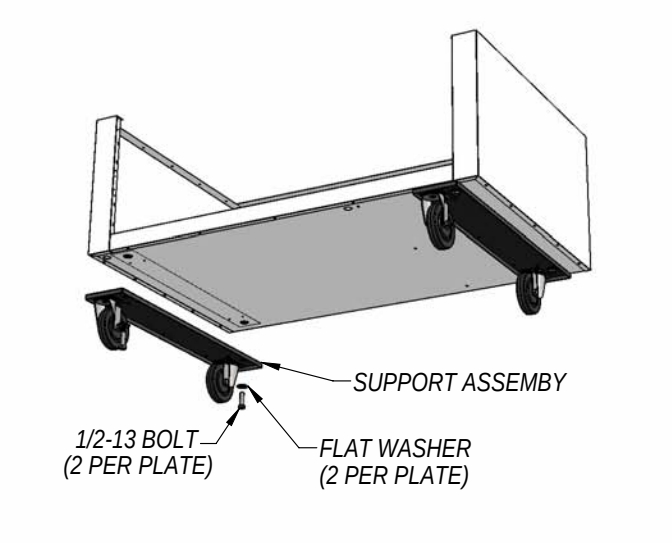
If casters on a cabinet are not properly maintained and tightened, or if the unit is excessively overloaded and moved around, the threaded inserts in the bottom of the cabinet can become stripped, twisted or collapsed. If this occurs and the stem casters cannot be mounted securely, rigid caster support plates can be fitted to provide the strength needed to safely use your cabinet. Each caster support plate assembly is made of heavy gauge galvanized steel, with (2) casters permanently welded to it, for maximum rigidity. The plate has a series of holes that will allow you to fasten the plate assembly to the bottom of the cabinet with sheet metal screws and bolts. Contact the factory to obtain the correct parts for your model.

IMPORTANT NOTE: Always wear proper work gloves and use appropriate safety equipment. You may **CAREFULLY** lay the cabinet on its back, but only **FOR A BRIEF PERIOD OF TIME**. Caution must be taken to ensure you **DO NOT DAMAGE** the back or side panels, as well as the copper tubing and refrigeration components located on top of your cabinet. The cabinet must be properly blocked, to allow room to get your hands in to lift without damaging the cabinet or crushing the end panels. **DO NOT PLUG-IN OR OPERATE THE REFRIGERATION SYSTEM FOR AT LEAST THREE (3) HOURS AFTER THE UNIT HAS BEEN RETURNED TO AN UPRIGHT POSITION, AS THIS CAN DAMAGE THE COMPRESSOR.**

To install caster support plate assemblies, you will need a 3/4" open end wrench (or a large adjustable wrench), a drill with a 1/8" bit and a Phillips bit (or a Phillips-Head screwdriver) plus work gloves. A 1/2-13 thread tap is also recommended, to repair any damage to the threaded inserts in the cabinet. Unload all product and carefully lay the cabinet on its back. Remove the old stem casters by unscrewing them from the cabinet. If a caster or threaded insert has been stripped or cross-threaded, it may be necessary to use a wrench to loosen the caster.

Hold one of the support plate assemblies under the cabinet as shown (**see Figure 16**). Position it so the slotted holes at the end of the plate line up with the threaded inserts in the bottom of the cabinet (where the stem casters were attached). Attach the plate assembly to the cabinet by putting a 1/2" x 1-3/4" long bolts and flat washer through the slot in the support plate and screwing into each of the threaded inserts in the bottom of the cabinet. **Snug the bolts down, but do not tighten them completely**. If one of the threaded inserts is stripped or damaged, a thread tap should be used to clean the threads.

FIGURE 16: Caster Support Plates



Using the small holes in the plate as a template, drill 1/8 pilot holes in the bottom of the cabinet. (**Note: drill only until you penetrate the metal bottom of the cabinet. Do not continue to drill into the insulation, or you may damage the cabinet.**) Secure the caster support plate assembly to the cabinet with a sheet metal screw in each of the drilled holes. Tighten the 1/2" bolts. Repeat these steps to attach the other plate assembly to the opposite end of the cabinet.

Check that both plates are secure and that the casters turn and swivel freely. Carefully lift the cabinet upright and double check that the caster support plates are secure and the cabinet is stable. Wait at least 3 hours before turning the refrigeration system back on, and at least another 30 minutes for the cabinet to come down to temperature and stabilize, before reloading with product.

REMOTE SET-UP AND INSTALLATION GUIDELINES

All remote refrigerators and freezers are shipped with an expansion valve, thermostat and defrost timer (freezer only), installed from the factory. The installer is responsible for connecting all refrigerant lines, liquid line drier, sight glass, solenoid, head pressure control, hi/low pressure safety, crankcase heater, condensing unit and any other accessories as well as wiring. The evaporator section has been factory leak checked with helium, however; due to vibration in transit, the entire system must be thoroughly leak checked after installation and prior to start-up. The final leak inspection of the entire completed refrigeration system and all of its components as well as start-up and the operation of the refrigeration system is the sole responsibility of the installer.

The CFC-Free refrigerant used in standard remote and self-contained models is R-134a for refrigerators and R-404a for freezers. All compressors and systems designed for these refrigerants utilize polyester oil as their main lubricant, which absorbs moisture from the ambient surroundings extremely fast and in much greater quantity than conventional mineral oils. Since moisture levels greater than 100 PPM will result in system corrosion and ultimate failure, it is imperative that the compressor, components and entire system be kept sealed.

1. All refrigerant lines and components must be clean, free of burrs and purged with nitrogen prior to and during brazing or soldering connections. Nitrogen purging during brazing or soldering will eliminate carbon or foreign matter contamination. Any system restrictions or contamination is the responsibility of the installer.
2. Condensing unit or compressor shall not be left open to the atmosphere for more than five (5) minutes.
3. No refrigeration component, tubing or fitting shall be left open to the atmosphere for more than ½ hour without being soldered, capped or plugged.
4. Each completed refrigeration system shall be purged with 150psi of dry nitrogen for at least six (6) seconds, then pressurized with at least 165psi of nitrogen for pressure check (making sure to energize any solenoid valves to assure access). Leak-check all joints, flare fittings and valves and make sure there is no pressure drop within the system.
5. System evacuation is of the utmost importance with NON-CFC refrigerant systems. System must be evacuated to a minimum of 200 microns. In addition, a vacuum decay test is strongly recommended to assure there is not a large pressure differential between the system and the vacuum pump. System must be evacuated from both high and low sides of the system using heavy duty vacuum hoses.
6. Each system should be charged with the refrigerant type as specified on the cabinet data tag. This refrigerant type should match the type listed on the condensing unit being used. The refrigerant charge should be held to the minimum required for the satisfactory pull down and operation. For an accurate indication of refrigerant charge, the sight glass will show a full column of liquid.
7. The superheat reading taken 6" from the compressor suction valve should be 30° +/- 5°. Expansion valve adjustment may be necessary to achieve this superheat.
8. Installation of the electric condensate vaporizer is also the responsibility of the installer (**see "Installing Electric Condensate Vaporizer" under "Optional Accessories"**).

CAUTION: EXTREME CARE MUST BE USED WHEN ACCESSING THE SYSTEM DURING INSTALLATION. DUE TO THE COMPLEXITY OF REMOTE REFRIGERATION SYSTEMS AND THE POTENTIAL FOR IMPROPER INSTALLATION, ANY RESTRICTIONS, LEAKS, FAILED OR DAMAGED COMPONENTS CAUSED BY CONTAMINANTS ARE NOT THE RESPONSIBILITY OF CONTINENTAL REFRIGERATOR.

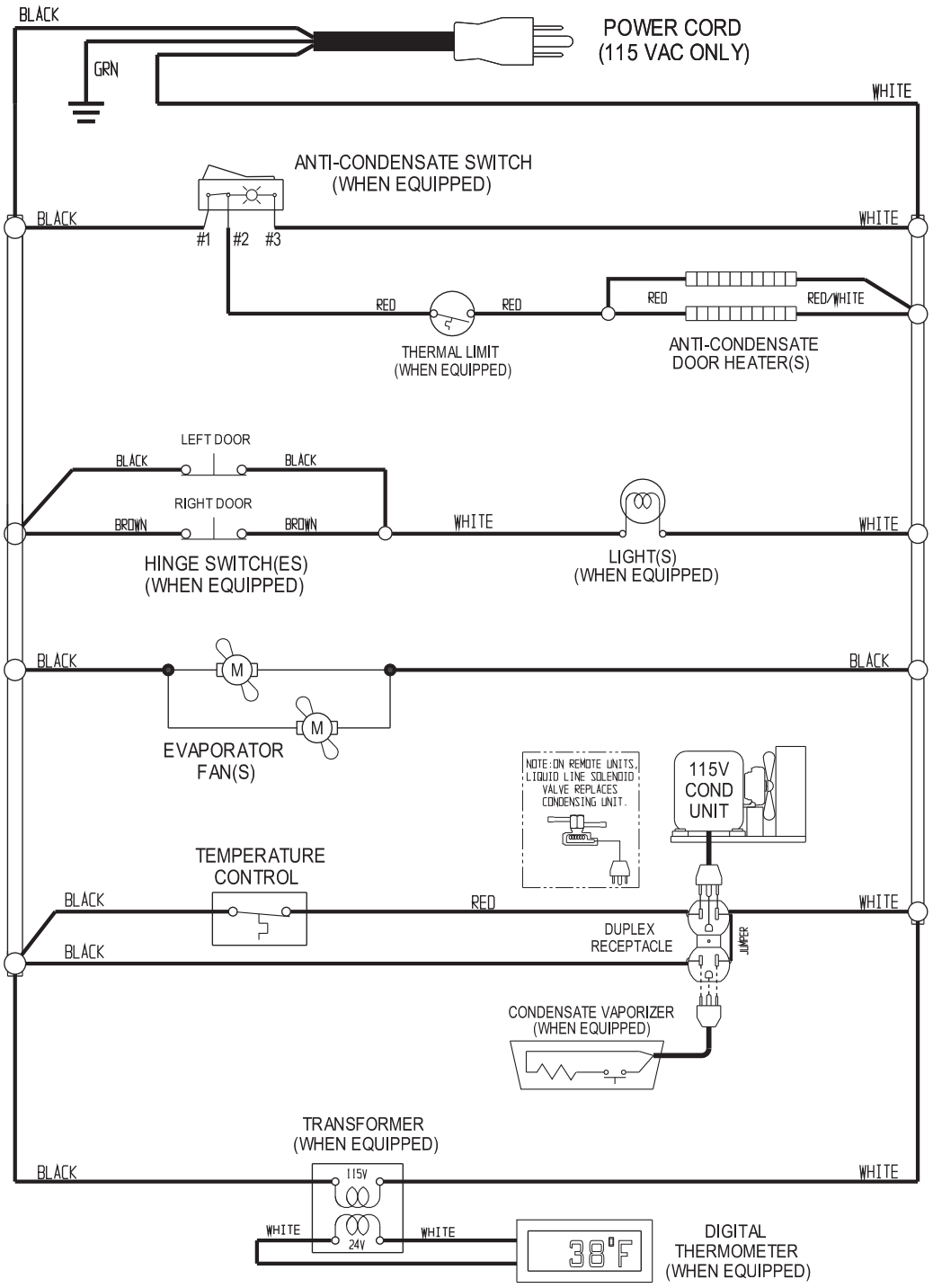
MODEL # _____ **SERIAL #** _____

Notes: _____

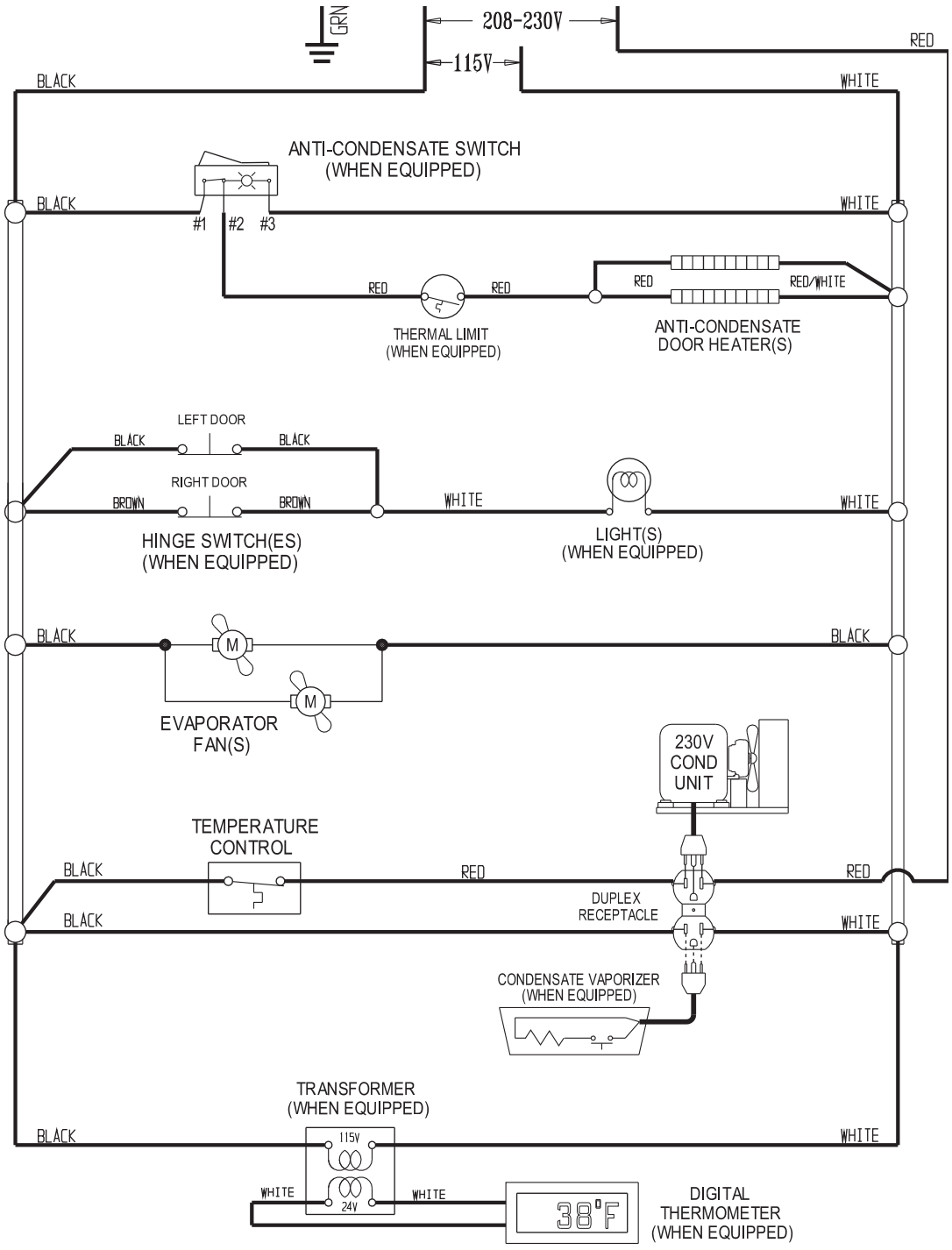
PROBLEM	PROBABLE CAUSE	CORRECTION
Condensing unit will not start - no hum.	1. Line disconnected, switch open. 2. Fuse removed or blown. 3. Overload protector blown. 4. Control "Off" due to cold location. 5. Control stuck in open position. 6. Wiring improper or loose.	1. Close start or disconnect switch. 2. Replace Fuse. 3. Determine reason and correct/replace. 4. Relocate control. 5. Repair or replace control. 6. Check wiring against diagram.
Condensing unit will not start - hums but trips on overload protector.	1. Improperly wired. 2. Low voltage to unit. 3. Starting capacitor defective. 4. Relay failing to close. 5. Compressor motor has a shorted or open winding. 6. Internal mechanical trouble in compressor. 7. Insufficient air supply.	1. Check wiring against diagram. 2. Determine reason and correct. 3. Determine reason and replace. 4. Determine reason and replace. 5. Replace compressor. 6. Replace compressor. 7. Clear condenser and allow compressor to cool down.
Condensing unit starts and runs, but short cycles on overload protector.	1. Additional current passing through overload protector. 2. Low voltage unit. 3. Overload protector defective. 4. Run capacitor defective. 5. Excessive discharge pressure. 6. Excessive suction pressure. 7. Insufficient air supply.	1. Check wire diagram. Check for added components connected to wrong side of overload protector. 2. Determine reason and correct. 3. Check current, replace protector. 4. Determine reason and replace. 5. Check ventilation, restrictions in cooling medium or refrig. system. 6. Check for misapplication. 7. Clear condenser and allow compressor to cool down.
Condensing unit starts, but fails to switch off of "start" winding.	1. Improperly wired. 2. Low voltage to unit. 3. Relay failing to open. 4. Run capacitor defective. 5. Excessively high discharge pressure. 6. Compressor motor has a shorted or open winding. 7. Internal mechanical trouble in compressor.	1. Check wiring against diagram. 2. Determine reason and correct. 3. Determine reason and replace. 4. Determine reason and replace. 5. Check discharge shut-off valve, possible overcharge. 6. Replace compressor. 7. Replace compressor.
Condensing unit runs, but short cycles on:	1. Overload protector. 2. Thermostat. 3. High pressure cut-out due to: (a) Insufficient air supply. (b) Overcharge. (c) Air in system. 4. Low pressure cut-out due to: (a) Valve leak. (b) Undercharge. (c) Restriction in expansion device.	1. Check current, replace protector. 2. Differential setting must be widened. 3. (a) Check air supply to condenser. (b) Evacuate and re-charge. (c) Evacuate and re-charge. 4. (a) Replace, evecuate and re-charge. (b) Evacuate and re-charge. (c) Replace expansion device.
Condensing unit runs, but for prolonged periods or continuous.	1. Shortage of refrigerant. 2. Control contacts stuck closed. 3. Excessive heat load placed into cabinet. 4. Prolonged or too frequent door openings. 5. Evaporator coil iced. 6. Restriction in refrigeration system. 7. Dirty condenser. 8. Filter drier clogged.	1. Fix leak, evacuate and re-charge. 2. Clean contacts or replace control. 3. Allow unit sufficient time for removal of latent heat. 4. Plan or organize schedule to correct condition. 5. Defrost evaporator coil. 6. Determine location and remove. 7. Clean condenser coil. 8. Replace, evacuate and re-charge.

PROBLEM	PROBABLE CAUSE	CORRECTION
Start capacitor open, shorted or blown.	1. Relay contact not opening properly. 2. Prolonged operation on start cycle: (a) Low voltage to unit. (b) Improper relay. (c) Starting load too high. 3. Excessive short cycling. 4. Improper capacitor.	1. Clean contacts or replace relay. 2. (a) Determine reason and correct. (b) Replace with correct relay. (c) Correct by using pump down. 3. See “Condensing Unit Short Cycles” above. 4. Determine correct size and replace.
Run capacitor open, shorted or blown.	1. Improper capacitor. 2. Excessively high line voltage, over 110% of rated maximum.	1. Check size and replace. 2. Determine reason and correct.
Relay defective or blown out.	1. Incorrect Relay. 2. Incorrect mounting angle. 3. Voltage too low or too high. 4. Excessive short cycling. 5. Loose or vibrating mounting position. 6. Incorrect run capacitor. 7. Loose wiring on relay or overload.	1. Check relay and replace. 2. Remount relay in correct position. 3. Determine reason and correct. 4. See “Condensing Unit Short Cycles” above. 5. Remount rigidly. 6. Replace with proper capacitor. 7. Tighten all wiring screws.
Product zone temperature too high.	1. Control setting too high. 2. Inadequate air circulation. 3. Dirty condenser.	1. Adjust T-stat. 2. Rearrange product load to improve air circulation. 3. Clean condenser coil.
Suction line frosted or sweating.	1. Overcharge of refrigerant. 2. Evaporator fan not running. 3. Expansion valve stuck open. 4. Expansion valve superheat too low.	1. Evacuate and re-charge. 2. Determine reason and correct. 3. Clean valve, evacuate and re-charge. 4. Adjust superheat to required setting.
Liquid line frosted, cold or sweating.	1. Restriction in drier strainer. 2. Liquid line service valve partially closed.	1. Replace drier, evacuate and re-charge. 2. Open valve fully or replace if necessary.
Noisy condensing unit.	1. Loose parts or mounting. 2. Tubing rattle or vibration. 3. Bent fan blade causing excessive vibration. 4. Fan bearings worn.	1. Tighten all mounting parts and shroud cover. 2. Reform tubing to be free of contact. 3. Replace fan blade. 4. Replace fan motor.
Thermometer reads different than actual temperature.	1. Calibration. 2. Defective.	1. Consult Operations Manual and calibrate. 2. Replace.
Water leak inside unit.	1. Condensate drain pan not installed properly. 2. Unit not level. 3. Drain pan misaligned. 4. Defective drain pan.	1. Consult Operations Manual for install instructions. 2. Make sure unit is level or pitched back slightly. 3. Make sure drain pan is aligned properly. 4. Replace.
Doors misaligned.	1. Shifted during shipping.	1. Refer to Operation Manual for hinge adjustment.

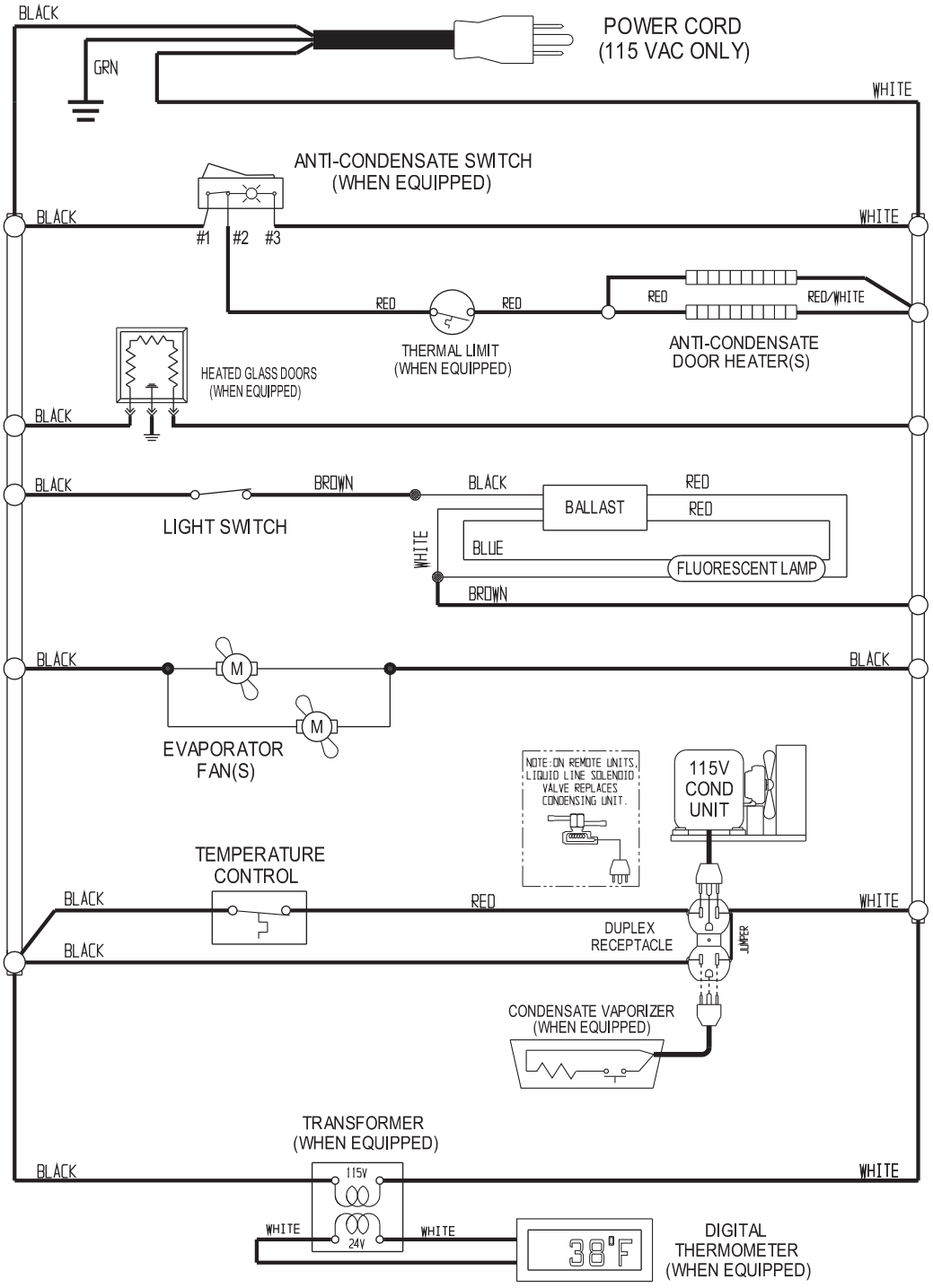
REFRIGERATOR 115/60/ WD-R1



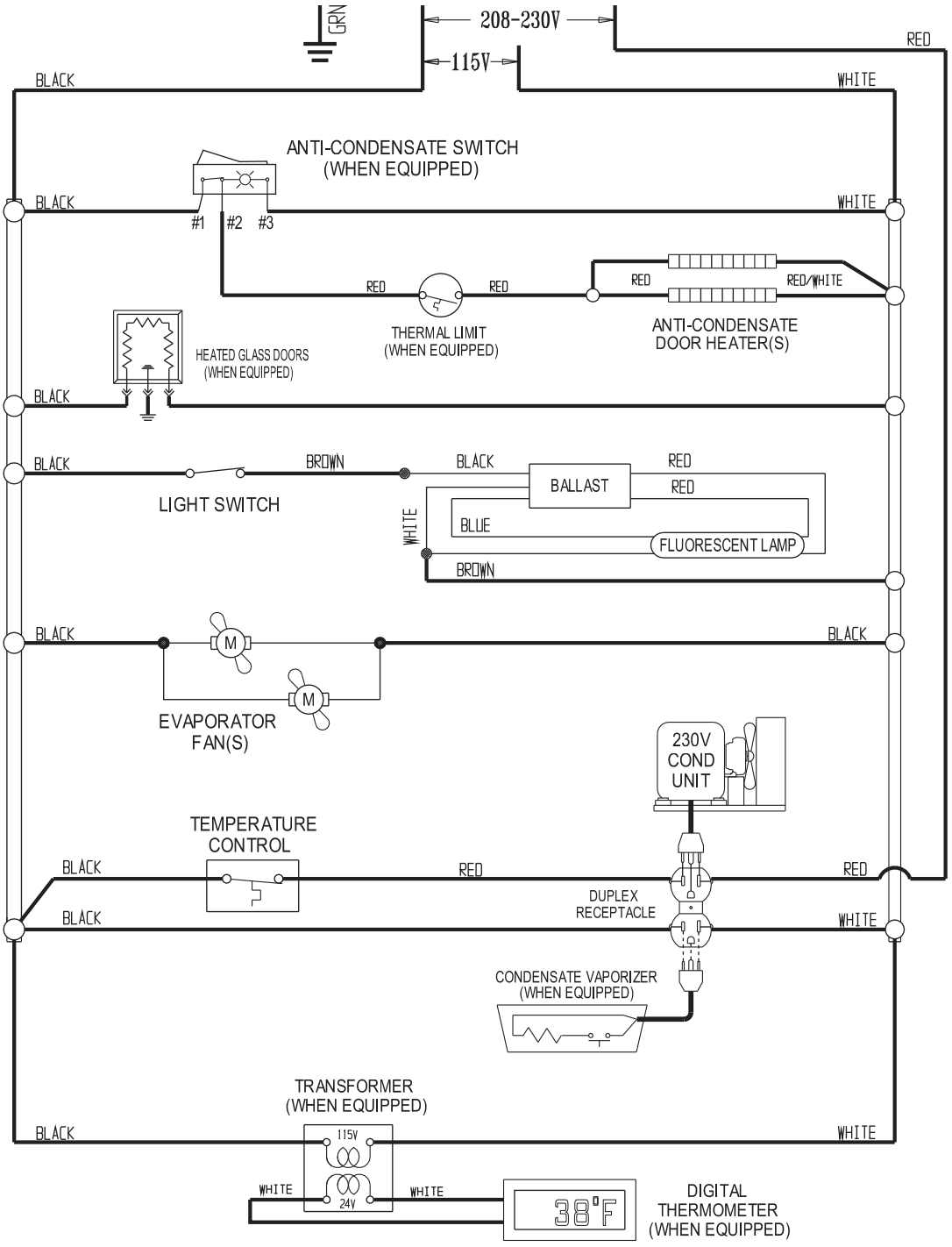
SELF-CONTAINED REFRIGERATOR 115/208-230/60/1 WD-R2
(115V CABINET, 208-230V CONDENSING UNIT)



GLASS DOOR REFRIGERATOR 115/60/1 WD-R3
WITH FLUORESCENT LIGHT

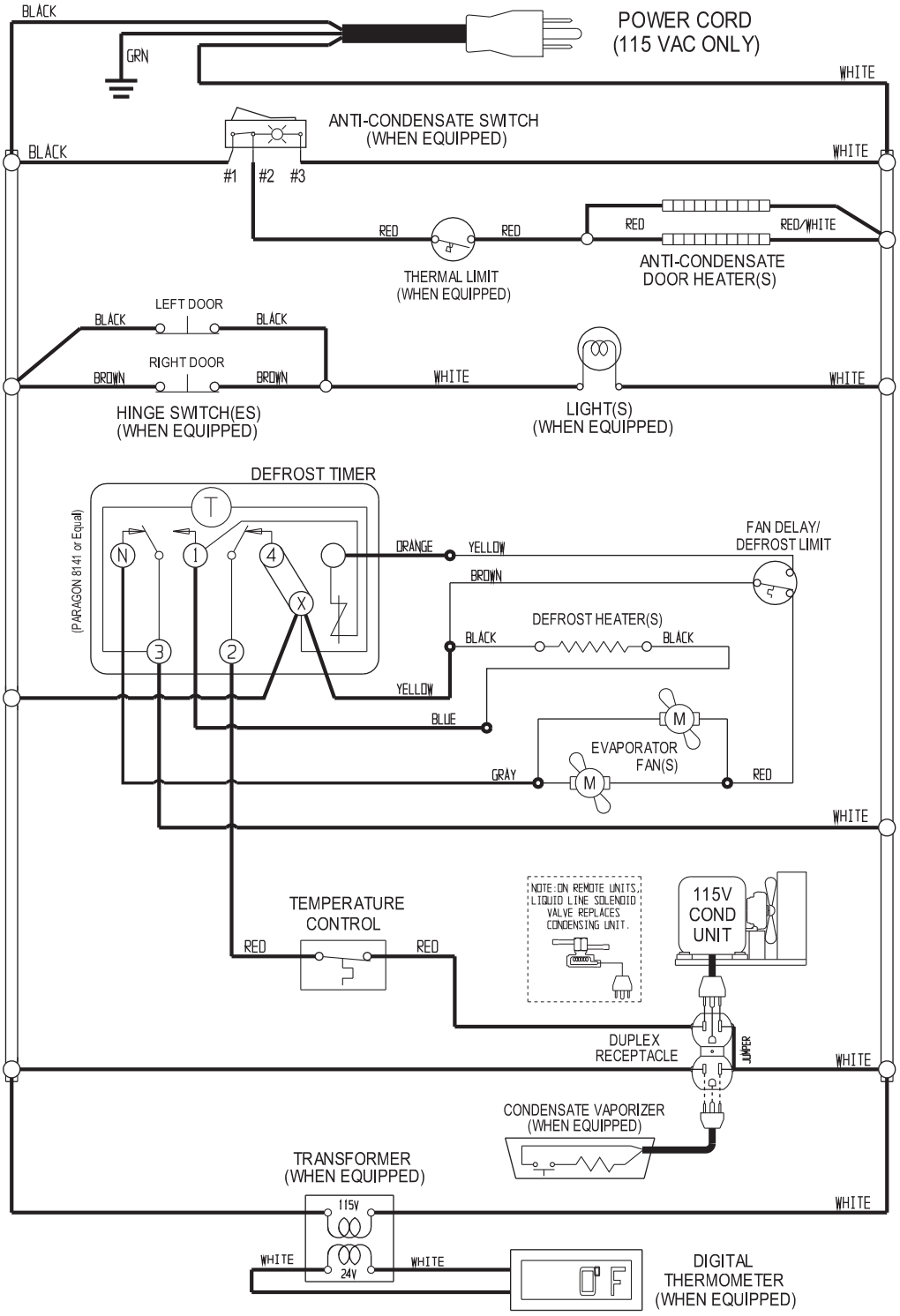


SELF-CONTAINED GLASS DOOR REFRIG. 115/208-230/60/1 WD-R4
WITH FLUORESCENT LIGHT (115V CABINET, 208-230V COND UNIT)



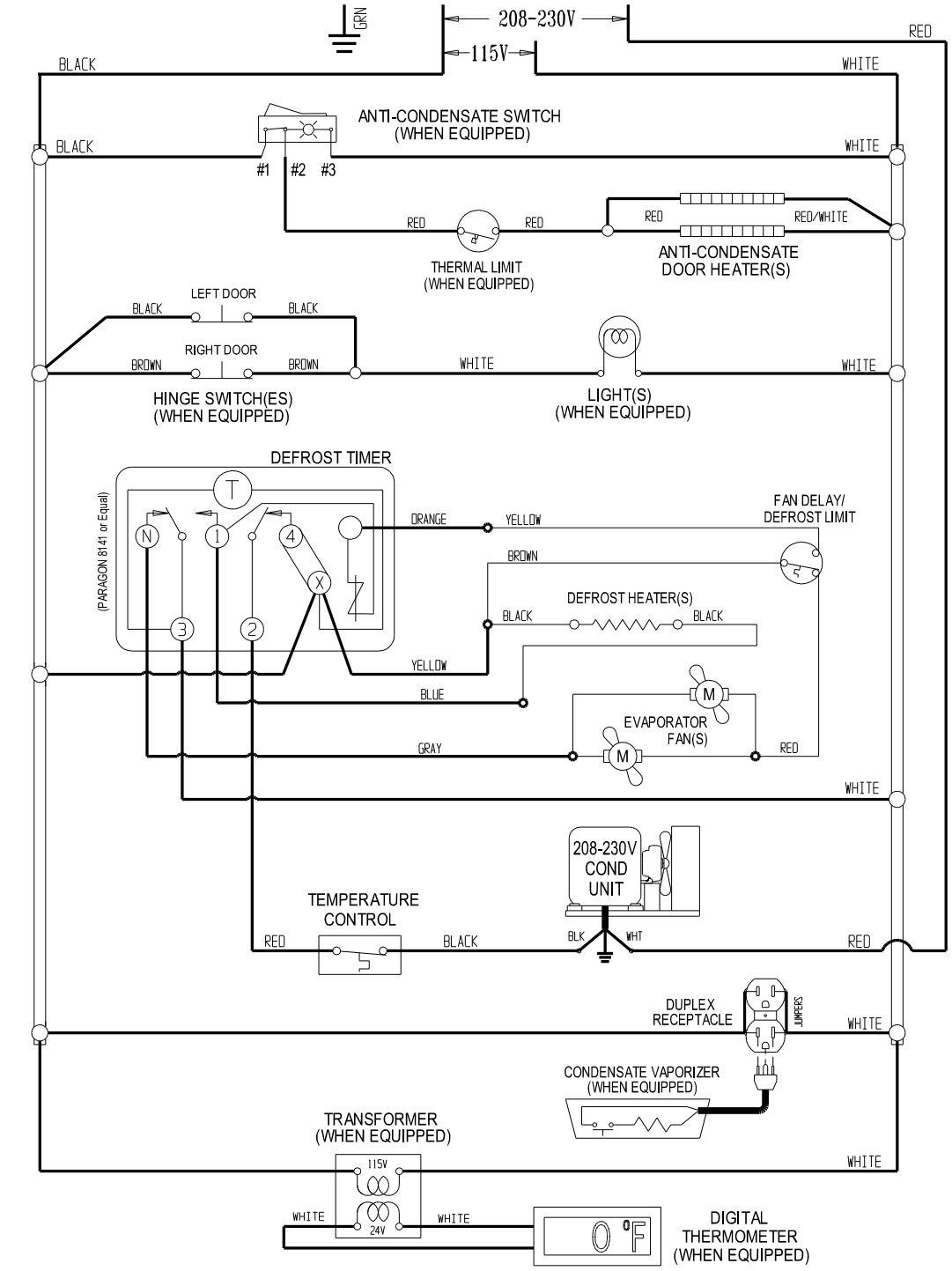
FREEZER 115/60/1

WD-F1



SELF-CONTAINED FREEZER 115/208-230/60/1 WD-F2

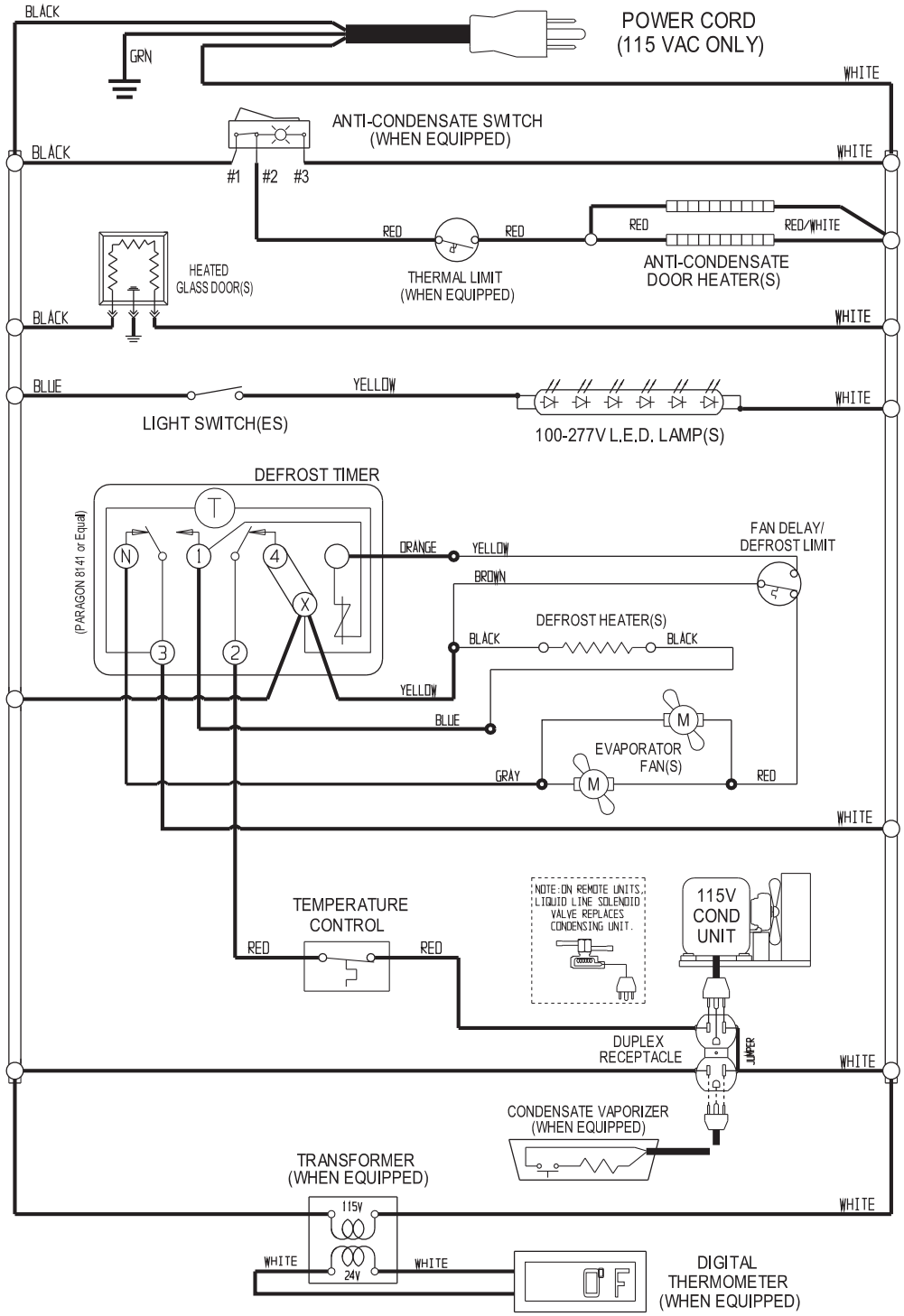
(115V CABINET, 208-230V CONDENSING UNIT)



GLASS DOOR FREEZER 115/60/1

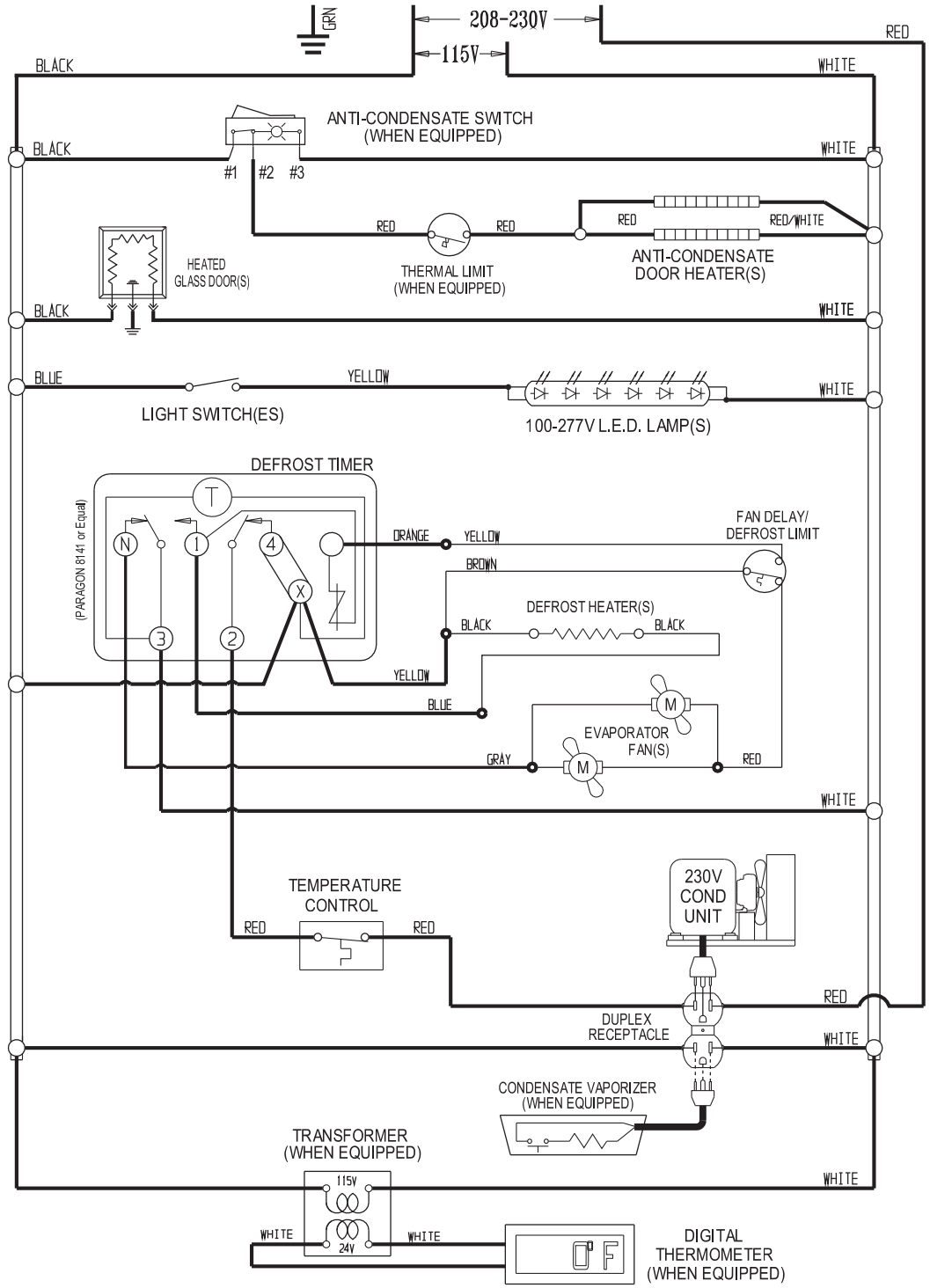
WITH LED LIGHT

WD-F3-LED



SELF-CONTAINED GLASS DOOR FREEZER 115/208-230/60/1 WD-F4-LED

WITH LED LIGHT (115V CABINET, 208-230V CONDENSING UNIT)



Continental SCIENTIFIC

ONE (1) YEAR PARTS AND LABOR WARRANTY

Continental Scientific warrants to the original purchaser of every new Continental Scientific self contained unit, including all parts thereof, that such equipment is free from defects in material and workmanship, under normal use, proper maintenance and service as indicated by Continental Scientific installation and operation manual, for a period of one (1) year from the date of installation, or fifteen (15) months from the date of shipment from the manufacturer, whichever comes first. Normal wear type parts, such as light bulbs/lamps and gaskets are not covered by this warranty. For the purpose of this warranty, the original purchaser shall be deemed to mean the individual or company for whom the product was originally installed.

Continental Scientific's obligation under this warranty shall be limited to repairing or replacing, including labor, any part of such product which proves thus defective. Continental Scientific reserves the right to examine any product claimed to be defective. The labor warranty shall be for self-contained units only and for standard straight time, which is defined as normal service rate time, for service performed during normal working hours. Any service requested outside of a servicer's normal working hours will be covered under this warranty for the normal rate and any additional overtime rate will be the responsibility of the equipment purchaser.

Any part determined to be defective in the product should be returned to the company within thirty (30) days under the terms of this warranty and must be accompanied by the cabinet model, serial number, and identified with a return material authorization number, issued by the manufacturer.

Special installation/applications, including remote locations, are limited in coverage by this warranty. Any installation that requires extra work, and/or travel, to gain access to the unit for service is the sole responsibility of the equipment purchaser.

Improper operation resulting from factors, including but not limited to, improper or negligent cleaning and maintenance, low voltage conditions, inadequate wiring, and accidental damage are not manufacturing defects and are strictly the responsibility of the purchaser.

Condenser coils must be cleaned at regular intervals. Failure to do so can cause compressor malfunction and will void warranty. Continental Refrigerator recommends a minimum monthly cleaning, as stated in the installation and operation manual.

ADDITIONAL FOUR (4) YEAR COMPRESSOR PART WARRANTY

In addition to the warranty set forth above, Continental Scientific warrants the hermetically/semi-hermetically sealed compressor (part only) for an additional four (4) years beyond the first one (1) year warranty period; not to exceed sixty-three (63) months from the date of shipment from Continental Scientific, provided upon receipt of the compressor, manufacturer examination shows the sealed compressor to be defective. This extended warranty does not cover freight for the replacement compressor or freight for return of the failed compressor. Also, this extended compressor-part only warranty does not apply to any electrical controls, condenser, evaporator, fan motors, overload switch, starting relay, capacitors, temperature control, filter/drier, accumulator, refrigeration tubing, wiring harness, labor charges, or supplies which are covered by the standard warranty above.

THE FOREGOING WARRANTIES ARE EXPRESSLY GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED, ALONG WITH ALL OTHER OBLIGATIONS OR LIABILITIES ON OUR PART. AND WE NEITHER ASSUME, NOR AUTHORIZE ANY OTHER PERSON TO ASSUME FOR US, ANY OBLIGATION OR LIABILITY IN CONNECTION WITH THE SALE OF SAID REFRIGERATION UNITS OR ANY PARTS THEREOF.

This warranty shall not be assignable and shall be honored only in so far as the original purchaser.

This warranty does not apply outside the limits of the United States of America and Canada, nor does it apply to any part that has been subject to misuse, neglect, alteration, accident, or to any damage caused by transportation, flood, fire, acts of terrorism, or acts of God.

IN NO EVENT SHALL CONTINENTAL SCIENTIFIC BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES. THE REMEDIES OF PURCHASER SET FORTH HEREIN ARE EXCLUSIVE AND THE TOTAL LIABILITY OF CONTINENTAL SCIENTIFIC, WHETHER BASED ON CONTRACT, WARRANTY, NEGLIGENCE, INDEMNIFICATION, STRICT LIABILITY, TORT, OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE OF THE COMPONENT UPON WHICH LIABILITY IS BASED. CONTINENTAL SCIENTIFIC SHALL HAVE NO OBLIGATION OR LIABILITY FOR CONSEQUENTIAL OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO INDIRECT, PUNITIVE DAMAGES, LOSS OF USE, LOSS OF PRODUCT, DOWNTIME OR LOST PROFITS, ARISING OUT OR, RELATED TO OR CONNECTED IN ANY WAY WITH THE PRODUCT OR ITS USE.

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Please Note: All models NSF certified (excluding prefix "CH" and suffix "CW" models)

IM-Scientific-RI-Lt Blue-50199-20130415